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May 29, 2019

Margaret Ligarde, Deputy Director, Office of Legal Services (MC-218)
Texas Commission on Environmental Quality
12100 Park 35 Circle, Bldg. F
Austin, Texas 78753

Via Electronic Mail to: Margaret.Ligarde@tceq.texas.gov

Re: Southwest Shipyard, L.P. Wastewater Treatment Permit

Dear Ms. Ligarde,

This letter follows on our recent discussions concerning Southwest Shipyard, LP's ("Southwest") authorization to discharge effluent resulting from the treatment of off-site wastewater resulting from response operations following the recent ITC terminal fire in La Porte, Texas.

The wastewater at issue is received from ITC at the company's Channelview facilities via barge and consists of aqueous wastewater containing organic hydrocarbons (0-5%) and may contain similar amounts of residual firefighting foam. Of three barges currently designated for treatment at Channelview, two contain hazardous wastewater and a third contains non-hazardous wastewater. Assuming the wastewater received from ITC is similar to on-site generated waste and is compatible with the treatment used to treat the on-site waste, then the wastewater is allowed under Southwest's TPDES Permit. The following explains the basis for this conclusion.

Southwest's Facilities and TPDES Permit

Southwest's Channelview facility includes a wastewater treatment plant ("WWTP" or "Plant") which consists of storage tanks, primary separation units, pretreatment units, biological treatment units, and tertiary filtration units. The Plant treats hazardous on-site generated wastewater and a limited class of third-party wastewater received from off-site. The Plant is subject to the RCRA wastewater treatment unit exemption and, therefore, does not require a RCRA permit to treat hazardous waste.

Southwest's Plant is authorized to discharge treated effluent under Texas Pollution Discharge Elimination System Permit No. WQ0002605000 ("TPDES Permit" or "Permit"), last amended and issued on November 26, 2018 (**Attachment A**). Under the Permit, Southwest is specifically authorized to discharge third-party wastewaters from Outfall 001 under a Permit condition stating that "the permittee is authorized to *discharge treated wastewaters, which include... third-party biotreatable wastewater*¹...."

Issue: Does Southwest's TPDES Permit Authorize the Discharge of Effluent from Third-Party Biotreatable Wastewater That Is Not "Wash Water"

Southwest's WWTP has already processed the wash water resulting from decontamination of marine response vessels associated with the ITC response operations pursuant to the direction of the On Scene Coordinator in charge of the Unified Command. Southwest had commenced – but has presently ceased – treatment of the contents of one of the three aforementioned barges containing wastewater from cleanup operations in response to the ITC incident.

Recently, TCEQ staff has questioned whether Southwest is authorized to discharge effluent from the treatment of off-site wastewater that is not derived from washing operations ("wash water") and, consequently, whether treated effluent from ITC wastewater may be discharged from Outfall 001 under the terms of the current Permit.

Southwest's TPDES Permit Authorizes a Category of Third-Party Wastewaters That are Broader Than Wash Water

1. "Wastewater" Encompasses More Than "Wash Water"

Southwest's TPDES Permit has included an explicit authorization allowing discharges resulting from third-party biotreatable *wastewater* for many years. In December 2017, Southwest filed a permit renewal and amendment application ("Application") for its Permit. In its Application, Southwest requested that TCEQ revise the Permit to more specifically clarify the off-site wastewater Southwest accepts. In the revised permit (major amendment) issued on November 26, 2018 ("Amendment") TCEQ added provisions specifying the parameters for third-party biotreatable wastewater.

The TPDES Permit, as amended, continues to authorize discharges of treated "wastewaters" which include – separate and apart from on-site generated wastewater – "third party biotreatable wastewater". Requirement 1, page 2, states:

[T]he permittee is authorized to discharge treated wastewaters, which include barge wash water, *third-party biotreatable wastewater*¹, domestic wastewater, utility

¹ See Effluent Limitation and Monitoring Requirement No. 1 for Outfall Number 001, TPDES Permit at p. 2.

wastewaters (vacuum tower cooling water and boiler blowdown), steam condensate, barge ballast water, water treatment wastes², fresh water filter backwash, and contaminated stormwater runoff subject to [specified] effluent limitations....

This provision identifies “barge wash water” as a separate category of wastewaters from “third-party biotreatable wastewater”. If third-party material were limited to “wash water”, as TCEQ staff has posited, the Permit would use the term “third-party biotreatable *wash water*” rather than “third-party biotreatable *wastewater*”.

Footnote 1 directs the reader to “Other Requirements Nos. 4, 5, and 6” in the Permit. Other Requirement 4 defines “third-party biotreatable wastewater”:

[W]astewater that is from third-party sources, such as tank truck washing operations, container washing operations, tank cleaning operations, barges, tractor trailers, or other washing operations that are similar to the on-going barge cleaning operations at Southwest Shipyard, L.P....

Similarly, in this requirement, the Permit refers to “wastewater” in connection with third-party material as opposed to “wash water”. “Wastewater” is a broader category than “wash water”.

2. “Wash Water” Is an Example of Third-Party Biotreatable Wastewater and Is Not a Term of Exclusion

Other Requirement No. 4 uses the phrase “such as” in listing specific examples of wastewaters (in particular, “wash waters”) that are acceptable third-party biotreatable wastewater. “Such as” introduces a list of non-exclusive examples that fall within the larger category. It is a phrase that provides illustration of some wastewaters that are acceptable, but it is not a phrase that excludes wastewaters from other operations (so long as the wastewaters meet other criteria). In order to make the latter distinction, i.e., that only wastewater derived from washing operations is allowed under the Permit, the Permit would use the term “third-party biotreatable *wash water*”, would define “third-party biotreatable wastewater” to mean “biotreatable wash water”, or similar explicit language.

3. The Application and Correspondence Stated that Southwest Receives Both Wastewater *and* Wash Water

Southwest’s Application distinguished wastewater from wash water. Specifically, the Application identified contributing waste streams to Outfall 001 as including both “Third-party Barge Wastewater and Wash water” and “Third-party Truck Wastewater and Wash Water”.²

² TCEQ-10055 (05/31/2017) Industrial Wastewater Application Technical Report page 8 of 82. ([Attachment B](#))

Later correspondence from Southwest to the TCEQ permit writer could not be clearer in explaining that the term “third-party biotreatable wastewater” is not limited to “wash water”. On July 1, 2018, Mr. Dan Irvin, Southwest’s Vice President of Environmental Affairs sent an e-mail to Ms. Shannon Gibson stating that the facility “routinely manages wastewater that arrives by barges”, wastewater which is “similar to the on-going barge cleaning operations”. He went on to state that the wastewaters are broader than the wash water examples contained in the existing Permit. Mr. Irvin explained that, while the wastewaters derived from operations other than wash water are accepted, the “[w]astewater from barges and tractor trailers would still be subject to the limitation that it be ‘similar to the on-going barge cleaning operations at Southwest Shipyard, L.P.’”.

The following day, Ms. Gibson replied by e-mail and stated: “Based on the below, the definition for Third-Party Biotreatable Wastewater will be amended to include *wastewaters* received from barges and tractor trailer in the draft permit.” (**Attachment C**) Neither Ms. Gibson nor Mr. Irvin ever stated, and the Application itself does not state, that only third-party wash water constitutes “third-party biotreatable wastewater”. Just the opposite was stated.

4. TCEQ’s Permit Support Document Evaluates Biotreatable Wastes and Off-Site Third Party Wastes Under an Exemption That is Not Restricted to Wash Water

The Statement of Basis accompanying the Amendment (**Attachment D**) discusses the calculated technology-based effluent limits contained in the draft Permit. That discussion included two paragraphs dedicated to the issue of “[b]iotreatable wastes and off-site third party [sic] wastes”.³ Importantly, the first paragraph evaluates whether “off-site wastes” should be subject to 40 CFR Part 437, containing standards for Centralized Waste Treatment (“CWT”) facilities.

The TCEQ support document states that “third party biotreatable waste via Outfall 001 is not subject to 40 CFR Part 437 based on 40 CFR § 437.1(b)(2)(B), which states *if off-site wastes are of similar nature and the treatment of such wastes are compatible with the treatment of non-Centralized Waste Treatment (CWT) wastes generated and treated at the CWT, the CWT regulations do not apply.*” This exemption is not limited to wastewater resulting from barge cleaning operations. The criteria for the exemption only require that the waste be “of similar nature” and that the treatment be “compatible” with the treatment on-site generated waste that is treated in the WWTP.⁴

The support document states that the existing limits in the Permit were based on TCEQ’s General Permit for Petroleum Contaminated Water (TXG830000). The limits in the general

³ Statement of Basis page 21.

⁴ The preamble to the CWT Rule is clear that the exemption for off-site waste under 40 CFR § 437.1(b)(2)(b) is not limited to the waste generated by the same manufacturing process or category as the on-site facility. 65 Fed. Reg. 81242 at 81254-57 (Dec. 22, 2000).

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permit were relied upon as BPJ for the discharge of biotreatable wastes and *off-site third party wastes*, not solely wash water. The support document evidences that the existing permit limits were also not established to limit effluent from treatment of only wash waters and that the existing limits were carried forward for the Amendment.

Summary

Southwest always intended, and the permitting record and Southwest's Permit are clear, that Southwest's WWTP is authorized to accept third-party biotreatable wastewater, so long as the wastewater is *similar to* on-site generated waste and *compatible with* the treatment facilities used for on-site waste. If the ITC wastewater meets these two criteria, then it may be treated at Southwest's WWTP under its TPDES Permit. Southwest and ITC's technical consultant have evaluated the subject wastewater and concluded that it does meet these criteria. We can provide additional technical detail supporting this conclusion on request.

If you have any questions, please contact me.

Very Truly Yours

A handwritten signature in black ink, appearing to be "Rod Johnson", with a stylized, looping flourish.

Rod Johnson

Cc: Adam Adams, U.S. EPA
Aileen Hooks, Baker Botts, Counsel to ITC

Attachments

ATTACHMENT A



TEXAS COMMISSION ON ENVIRONMENTAL
QUALITY

P.O Box 13087
Austin, Texas 78711-3087

PERMIT TO DISCHARGE WASTES

under provisions of

Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

TPDES PERMIT NO. WQ0002605000
[For TCEQ office use only -
EPA I.D. No. TX0092282]

This amendment supersedes and
replaces TPDES Permit No.
WQ0002605000 issued on
September 15, 2010.

Southwest Shipyard, L.P.

whose mailing address is

18310 Market Street
Channelview, Texas 77530

is authorized to treat and discharge wastes from Southwest Shipyard, a marine barge cleaning and
repair facility (SIC 3737 and 4491)

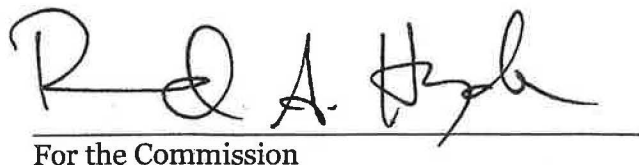
located at 18310 Market Street in the City of Channelview, Harris County, Texas 77530

to a barge slip on the west bank of the Houston Ship Channel/San Jacinto River Tidal in Segment No.
1005 of the San Jacinto River Basin

only according to effluent limitations, monitoring requirements and other conditions set forth in this
permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the
State of Texas, and other orders of the TCEQ. The issuance of this permit does not grant to the
permittee the right to use private or public property for conveyance of wastewater along the discharge
route described in this permit. This includes, but is not limited to, property belonging to any
individual, partnership, corporation, or other entity. Neither does this permit authorize any invasion of
personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of
the permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight on July 1, 2018.

ISSUED DATE: March 18, 2014

A handwritten signature in black ink, appearing to read "R. Q. A. Hylb", written over a horizontal line.

For the Commission

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge treated: barge wash water, third-party biotreatable wastewater (*1), groundwater remediation project wastewater (*2), domestic wastewater, utility wastewaters (vacuum tower cooling water, and boiler blowdown), steam condensate, barge ballast water, reverse osmosis wastewater, fresh water filter backwash, and contaminated stormwater runoff subject to the following effluent limitations:

The daily average flow of effluent shall not exceed 0.175 million gallons per day (MGD). The daily maximum flow shall not exceed 0.2 MGD.

Effluent Characteristics	Discharge Limitations					Minimum Self-Monitoring Requirements	
	Daily Average lbs/day	Daily Average mg/l	Daily Maximum lbs/day	Daily Maximum mg/l	Single Grab mg/l	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	0.175 MGD		0.2 MGD		N/A	1/day	Instantaneous
Chemical Oxygen Demand	166.5	Report	245	Report	440	1/week	Composite
Carbonaceous Biochemical Oxygen Demand (5 day)	14.4	10	29.2	20	30	1/week	Composite
Total Suspended Solids	16.7	26	37.2	58	85	1/week	Composite
Oil and Grease	7.3	16	11.4	20	20	1/week	Grab
Ammonia Nitrogen	4.38	3.0	8.8	6.0	6.0	1/week	Grab
Total Cadmium	N/A	N/A	0.014	0.02	0.02	1/month	Grab
Total Chromium	N/A	N/A	0.29	0.42	1.2	1/month	Grab
Hexavalent Chromium	N/A	Report	N/A	Report	N/A	1/month	Grab
Total Copper (*3)	N/A	N/A	0.07	0.10	0.10	1/month	Grab
Total Copper (*4)	N/A	N/A	0.07	0.091	0.091	1/month	Grab
Total Lead	N/A	N/A	0.1	0.14	0.14	1/month	Grab
Total Mercury (*3)	0.001	0.001	0.001	0.0013	0.0021	1/month	Grab
Total Mercury (*4)	0.00040	0.00042	0.00084	0.00088	0.00088	1/month	Grab
Total Nickel (*3)	0.37	0.25	0.73	0.50	0.50	1/month	Grab
Total Nickel (*4)	0.14	0.15	0.29	0.31	0.31	1/month	Grab
Total Zinc (*3)	N/A	N/A	Report	0.549	0.549	1/month	Grab
Total Zinc (*4)	N/A	N/A	Report	0.53	0.53	1/month	Grab
Sulfide	N/A	N/A	Report	Report	N/A	1/week	Grab
Benzene	N/A	N/A	N/A	0.13	0.13	1/month	Grab
Naphthalene	N/A	N/A	N/A	0.06	0.06	1/month	Grab
Phenanthrene (*3)	0.018	0.012	0.037	0.025	0.025	1/month	Grab
Phenanthrene (*4)	0.011	0.012	0.024	0.025	0.025	1/month	Grab
Total Phenols (4AAP)	N/A	N/A	N/A	0.35	0.35	1/week	Grab

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001 continued

Effluent Characteristics	Discharge Limitations					Minimum Self-Monitoring Requirements	
	Daily Average lbs/day	Daily Average mg/l	Daily Maximum lbs/day	Daily Maximum mg/l	Single Grab mg/l	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
BTEX, Total	0.15	0.1	0.15	0.1	0.1	1/month	Grab
Total Petroleum Hydrocarbons	22	15	22	15	15	1/month	Grab
Polynuclear Aromatic Hydrocarbons	0.015	0.01	0.015	0.01	0.01	1/month	Grab
Total Arsenic	N/A	0.494	N/A	N/A	0.148	1/quarter (*5)	Grab
Cyanide (Available)	N/A	0.018	N/A	N/A	0.054	1/quarter (*5)	Grab
Acrylonitrile	N/A	0.242	N/A	N/A	0.726	1/quarter (*5)	Grab
Carbon Tetrachloride	N/A	0.380	N/A	N/A	1.14	1/quarter (*5)	Grab
Chloroethane	N/A	0.295	N/A	N/A	0.885	1/quarter (*5)	Grab
Chloroform	N/A	0.325	N/A	N/A	0.975	1/quarter (*5)	Grab
Chrysene	N/A	0.059	N/A	N/A	0.177	1/quarter (*5)	Grab
1,1-Dichloroethane	N/A	0.059	N/A	N/A	0.177	1/quarter (*5)	Grab
1,2-Dichloroethane	N/A	0.574	N/A	N/A	1.722	1/quarter (*5)	Grab
1,1-Dichloroethylene	N/A	0.060	N/A	N/A	0.18	1/quarter (*5)	Grab
Ethylbenzene	N/A	0.380	N/A	N/A	1.14	1/quarter (*5)	Grab
Methylene Chloride	N/A	0.170	N/A	N/A	0.51	1/quarter (*5)	Grab
Methyl Chloride	N/A	0.295	N/A	N/A	0.885	1/quarter (*5)	Grab
Toluene	N/A	0.080	N/A	N/A	0.24	1/quarter (*5)	Grab
Vinyl Chloride	N/A	0.268	N/A	N/A	0.804	1/quarter (*5)	Grab

(*1) See Other Requirements, Nos. 4, 5, and 6.

(*2) See Other Requirements, Nos. 6 and 9.

(*3) Effective beginning upon the date of permit issuance and lasting 364 days.

(*4) Effective 365 days after the date of permit issuance and lasting through the expiration.

(*5) In addition to regular sampling when discharging treated groundwater remediation project effluent. See Other Requirements, No. 9.

2. The effluent shall contain a chlorine residual of at least 1.0 mg/L and a maximum chlorine residual of 4.0 mg/L after a detention of at least 20 minutes (based on peak flow), and shall be monitored once per week, by grab sample. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 001 continued

3. The effluent shall contain a minimum dissolved oxygen concentration of 4.0 mg/L and shall be monitored 1/week by grab sample.
4. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/day by grab sample.
5. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
6. Effluent monitoring samples shall be taken at the following location: At Outfall 001, after final treatment prior to leaving company property via the discharge pipe and prior to entering the San Jacinto River.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOutfall Number 001 continued

7. Whole Effluent Toxicity (WET) Limitations.

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Minimum Self-Monitoring Requirements</u>	
	Daily Avg	Daily Max	Measurement Frequency	Sample Type
Sublethal Whole Effluent Toxicity (WET) limit (Parameter 22414) ¹ <i>Menidia beryllina</i> (7-day chronic NOEC ³)	report	report	1/quarter	Composite
Sublethal Whole Effluent Toxicity (WET) limit 8% (Parameter 22414) ² <i>Menidia beryllina</i> (7-day chronic NOEC ³)	8%	8%	1/quarter	Composite

¹ Report the sublethal No Observed Effect Concentration (NOEC).

² The sublethal WET limit NOEC of not less than 8% becomes effective thirty-four months from the permit issue date, or one day before the permit expiration date, whichever comes first.

³ The NOEC is defined as the greatest effluent dilution at which no significant sublethality is demonstrated. Significant sublethality is defined as a statistically significant difference between a specified effluent dilution and the control.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOutfall Number 003

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge treated dry dock runoff (*1) and stormwater runoff subject to the following effluent limitations:

Volume: Intermittent and flow variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/l	Daily Maximum mg/l	Single Grab mg/l	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report MGD	Report MGD	N/A	1/day (*2)	Estimate
Total Suspended Solids (*3)					
- Upstream	Report	Report	N/A	1/week (*2)	Grab
- Outfall 003	Report	Report	N/A	1/week (*2)	Grab
- Net	50	100	100	1/week (*2)	Grab
Oil and Grease	N/A	15	15	1/week (*2)	Grab
Total Arsenic	0.23	0.49	0.49	1/week (*2)	Grab
Total Copper	N/A	Report	N/A	1/week (*2)	Grab
Total Nickel	0.12	0.25	0.25	1/week (*2)	Grab
Total Silver (*4)	0.009	0.018	0.018	1/week (*2)	Grab
Total Silver (*5)	0.007	0.016	0.016	1/week (*2)	Grab
Total Zinc	Report	Report	N/A	1/month (*2)	Grab

(*1) When discharging following external repairs that may include, but are not limited to, sand blasting, refinishing and painting. Also, See Other Requirements, No. 7.

(*2) When discharging.

(*3) See Other Requirements, No. 11.

(*4) Effective beginning upon the date of permit issuance and lasting 364 days.

(*5) Effective 365 days after the date of permit issuance and lasting through the expiration.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week (*2) by grab sample.
3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
4. Effluent monitoring samples shall be taken at the following location: At Outfall 003, where water from the deck of Dry Dock No. 1 is discharged into the San Jacinto River.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOutfall Number 004

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge treated dry dock runoff (*1) and stormwater runoff subject to the following effluent limitations:

Volume: Intermittent and flow variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/l	Daily Maximum mg/l	Single Grab mg/l	Report Daily Average and Measurement Frequency	Daily Maximum Sample Type
Flow	Report MGD	Report MGD	N/A	1/day (*2)	Estimate
Total Suspended Solids (*3)					
- Upstream	Report	Report	N/A	1/week (*2)	Grab
- Outfall 004	Report	Report	N/A	1/week (*2)	Grab
- Net	50	100	100	1/week (*2)	Grab
Oil and Grease	N/A	15	15	1/week (*2)	Grab
Total Arsenic	0.23	0.49	0.49	1/week (*2)	Grab
Total Copper	Report	Report	N/A	1/week (*2)	Grab
Total Cyanide	0.009	0.019	0.019	1/week (*2)	Grab
Total Nickel	0.12	0.25	0.25	1/week (*2)	Grab
Total Selenium	Report	Report	N/A	1/week (*2)	Grab
Total Silver (*4)	0.009	0.018	0.018	1/week (*2)	Grab
Total Silver (*5)	0.007	0.016	0.016	1/week (*2)	Grab
Total Zinc (*4)	0.259	0.549	0.549	1/week (*2)	Grab
Total Zinc (*5)	0.250	0.530	0.530	1/week (*2)	Grab

(*1) When discharging following repairs that may include, but are not limited to, sand blasting, refinishing and painting. Also, see Other Requirements No. 7.

(*2) When discharging.

(*3) See Other Requirement No. 11.

(*4) Effective beginning upon the date of permit issuance and lasting 364 days.

(*5) Effective 365 days after the date of permit issuance and lasting through the expiration.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week (*2) by grab sample.
3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
4. Effluent monitoring samples shall be taken at the following location: At Outfall 004, where water from the deck of Dry Dock No. 2 is discharged into the San Jacinto River.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall Number 005

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge treated dry dock runoff (*1) and stormwater runoff subject to the following effluent limitations:

Volume: Intermittent and flow variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/l	Daily Maximum mg/l	Single Grab mg/l	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report MGD	Report MGD	N/A	1/day (*2)	Estimate
Total Suspended Solids (*3)					
- Upstream	Report	Report	N/A	1/week (*2)	Grab
- Outfall 005	Report	Report	N/A	1/week (*2)	Grab
- Net	50	100	100	1/week (*2)	Grab
Oil and Grease	N/A	15	15	1/week (*2)	Grab
Total Copper	N/A	Report	N/A	1/week (*2)	Grab
Total Zinc	N/A	Report	N/A	1/month (*2)	Grab

(*1) When discharging following external repairs that may include, but are not limited to, sand blasting, refinishing and painting. Also see Other Requirements No. 7.

(*2) When discharging.

(*3) See Other Requirement No. 11.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week (*2) by grab sample.
3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
4. Effluent monitoring samples shall be taken at the following location: At Outfall 005, where water from deck of Dry Dock No. 3 is discharged into the San Jacinto River.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSOutfall Number 006

1. During the period beginning upon date of issuance and lasting through date of expiration, the permittee is authorized to discharge barge ballast water (*1) subject to the following effluent limitations:

Volume: Intermittent and flow variable.

Effluent Characteristics	Discharge Limitations			Minimum Self-Monitoring Requirements	
	Daily Average mg/l	Daily Maximum mg/l	Single Grab mg/l	Report Daily Average and Daily Maximum Measurement Frequency	Sample Type
Flow	Report MGD	Report MGD	N/A	1/day (*2)	Estimate
Total Suspended Solids	N/A	100	100	1/week (*2)	Grab
Chemical Oxygen Demand	N/A	150	150	1/week (*2)	Grab
Oil and Grease	N/A	15	15	1/week (*2)	Grab

(*1) Ballast water shall not come into contact with any materials in the barge cargo tanks, spilled materials, or any other materials which could impact the quality of the discharge.

(*2) When discharging.

2. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week (*2) by grab sample.
3. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.
4. Effluent monitoring samples shall be taken at the following location: At Outfall 006, located at latitude 29°47'22", between Outfall 001 and Dry Dock No. 1, where the effluent exits the ballast tanks and prior to entering the San Jacinto River.

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC §§305.121 - 305.129 (relating to Permit Characteristics and Conditions) as promulgated under the Texas Water Code (TWC) §§5.103 and 5.105, and the Texas Health and Safety Code (THSC) §§361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in Texas Water Code §26.001 and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

- a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder, and limited to major domestic wastewater discharge facilities with a one million gallons per day or greater permitted flow.
- b. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.
- c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.
- d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.
- e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. The average of multiple measurements of instantaneous maximum flow within a two-hour period may be used to calculate the 2-hour peak flow.
- f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calendar month.

2. Concentration Measurements

- a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.
 - i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.
 - ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.
- b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.
- c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.

- d. Daily discharge - the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day.

The "daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

- e. Bacteria concentration (Fecal coliform, *E. coli*, or Enterococci) - the number of colonies of bacteria per 100 milliliters effluent. The daily average bacteria concentration is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the n th root of the product of all measurements made in a calendar month, where n equals the number of measurements made; or computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements made in a calendar month. For any measurement of bacteria equaling zero, a substitute value of one shall be made for input into either computation method. If specified, the 7-day average for bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.
- f. Daily average loading (lbs/day) - the arithmetic average of all daily discharge loading calculations during a period of one calendar month. These calculations must be made for each day of the month that a parameter is analyzed. The daily discharge, in terms of mass (lbs/day), is calculated as $(\text{Flow, MGD} \times \text{Concentration, mg/L} \times 8.34)$.
- g. Daily maximum loading (lbs/day) - the highest daily discharge, in terms of mass (lbs/day), within a period of one calendar month.

3. Sample Type

- a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9(a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC §319.9(c).

- b. Grab sample - an individual sample collected in less than 15 minutes.

4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.
5. The term "sewage sludge" is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids that have not been classified as hazardous waste separated from wastewater by unit processes.
6. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§319.4 - 319.12. Unless otherwise specified, a monthly effluent report shall be submitted each month, to the Enforcement Division

(MC 224), by the 20th day of the following month for each discharge that is described by this permit whether or not a discharge is made for that month. Monitoring results must be reported on an approved self-report form that is signed and certified as required by Monitoring and Reporting Requirements No. 10.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act; TWC Chapters 26, 27, and 28; and THSC Chapter 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

- a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§319.11 - 319.12. Measurements, tests, and calculations shall be accurately accomplished in a representative manner.
- b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

3. Records of Results

- a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.
- b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR §264.73(b)(9) shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.
- c. Records of monitoring activities shall include the following:
 - i. date, time, and place of sample or measurement;
 - ii. identity of individual who collected the sample or made the measurement;
 - iii. date and time of analysis;
 - iv. identity of the individual and laboratory who performed the analysis;
 - v. the technique or method of analysis; and
 - vi. the results of the analysis or measurement and quality assurance/quality control records.

The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved self-report form. Increased frequency of sampling shall be indicated on the self-report form.

5. Calibration of Instruments

All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site or shall be readily available for review by a TCEQ representative for a period of three years.

6. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the Regional Office and the Enforcement Division (MC 224).

7. Noncompliance Notification

- a. In accordance with 30 TAC §305.125(9) any noncompliance that may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
 - b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:
 - i. unauthorized discharges as defined in Permit Condition 2(g).
 - ii. any unanticipated bypass that exceeds any effluent limitation in the permit.
 - iii. violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.
 - c. In addition to the above, any effluent violation that deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the Regional Office and the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.
 - d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC 224) as promptly as possible. For effluent limitation violations, noncompliances shall be reported on the approved self-report form.
8. In accordance with the procedures described in 30 TAC §§35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.
9. Changes in Discharges of Toxic Substances

All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the Regional Office, orally or by facsimile transmission within 24 hours, and both the Regional Office and the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:

- a. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- i. one hundred micrograms per liter (100 µg/L);
 - ii. two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - iii. five (5) times the maximum concentration value reported for that pollutant in the permit application; or
 - iv. the level established by the TCEQ.
- b. That any activity has occurred or will occur that would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- i. five hundred micrograms per liter (500 µg/L);
 - ii. one milligram per liter (1 mg/L) for antimony;
 - iii. ten (10) times the maximum concentration value reported for that pollutant in the permit application; or
 - iv. the level established by the TCEQ.

10. Signatories to Reports

All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC §305.128 (relating to Signatories to Reports).

11. All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Executive Director of the following:
- a. any new introduction of pollutants into the POTW from an indirect discharger that would be subject to CWA §301 or §306 if it were directly discharging those pollutants;
 - b. any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and
 - c. for the purpose of this paragraph, adequate notice shall include information on:
 - i. the quality and quantity of effluent introduced into the POTW; and
 - ii. any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PERMIT CONDITIONS

1. General

- a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.
- b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:
 - i. violation of any terms or conditions of this permit;
 - ii. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
 - iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.
- c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending, or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

2. Compliance

- a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.
- b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation, or suspension, or for denial of a permit renewal application or an application for a permit for another facility.
- c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation that has a reasonable likelihood of adversely affecting human health or the environment.
- e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.
- f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§305.62 and 305.66 and TWC §7.302. The filing of a request by the permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.
- g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.
- h. In accordance with 30 TAC §305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility that does not cause permitted effluent limitations to be exceeded or an unauthorized discharge to occur, but only if the bypass is also for essential maintenance to assure efficient operation.
- i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under Texas Water Code §§7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal CWA §§301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under the CWA §402, or any requirement imposed in a pretreatment program approved under the CWA §§402(a)(3) or 402(b)(8).

3. Inspections and Entry

- a. Inspection and entry shall be allowed as prescribed in the TWC Chapters 26, 27, and 28, and THSC Chapter 361.
- b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit, or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then

in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in TWC §7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

4. Permit Amendment or Renewal

- a. The permittee shall give notice to the Executive Director as soon as possible of any planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:
 - i. the alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in accordance with 30 TAC §305.534 (relating to New Sources and New Dischargers); or
 - ii. the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9; or
 - iii. the alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.
- c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.
- d. Prior to accepting or generating wastes that are not described in the permit application or that would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.
- e. In accordance with the TWC §26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.
- f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA §307(a) for a toxic pollutant that is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittee shall comply with effluent standards or prohibitions established under CWA §307(a) for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

5. Permit Transfer

- a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.
- b. A permit may be transferred only according to the provisions of 30 TAC §305.64 (relating to Transfer of Permits) and 30 TAC §50.133 (relating to Executive Director Action on Application or WQMP update).

6. Relationship to Hazardous Waste Activities

This permit does not authorize any activity of hazardous waste storage, processing, or disposal that requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to Texas Water Code Chapter 11.

8. Property Rights

A permit does not convey any property rights of any sort, or any exclusive privilege.

9. Permit Enforceability

The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Relationship to Permit Application

The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

11. Notice of Bankruptcy.

- a. Each permittee shall notify the executive director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:
 - i. the permittee;
 - ii. an entity (as that term is defined in 11 USC, §101(15)) controlling the permittee or listing the permit or permittee as property of the estate; or
 - iii. an affiliate (as that term is defined in 11 USC, §101(2)) of the permittee.
- b. This notification must indicate:
 - i. the name of the permittee;
 - ii. the permit number(s);
 - iii. the bankruptcy court in which the petition for bankruptcy was filed; and
 - iv. the date of filing of the petition.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in

order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.

2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge use and disposal and 30 TAC §§319.21 - 319.29 concerning the discharge of certain hazardous metals.
3. Domestic wastewater treatment facilities shall comply with the following provisions:
 - a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.
 - b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment and/or other treatment unit regulated by this permit.
4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.
5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.
6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under TWC §7.302(b)(6).
7. Documentation

For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for information required for TPDES permit applications, effluent data, including effluent data in permits, draft permits and permit applications, and other information specified as not confidential in 30 TAC §1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities that generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.
 - a. Whenever flow measurements for any domestic sewage treatment facility reach 75% of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the domestic wastewater treatment and/or collection facilities. Whenever the flow reaches 90% of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the

necessary additional treatment and/or collection facilities. In the case of a domestic wastewater treatment facility that reaches 75% of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

If in the judgment of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 149) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

- b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission, and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.
 - c. Permits for domestic wastewater treatment plants are granted subject to the policy of the Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.
9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.
 10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.
 11. Facilities that generate industrial solid waste as defined in 30 TAC §335.1 shall comply with these provisions:
 - a. Any solid waste, as defined in 30 TAC §335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.
 - b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.
 - c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC §335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.
 - d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Remediation Support Division. No person shall dispose of industrial solid

waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC §335.5.

- e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel, appurtenance, or other improvement on land used to manage industrial solid waste.
- f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC Chapter 335 and must include the following, as it pertains to wastewater treatment and discharge:
 - i. volume of waste and date(s) generated from treatment process;
 - ii. volume of waste disposed of on-site or shipped off-site;
 - iii. date(s) of disposal;
 - iv. identity of hauler or transporter;
 - v. location of disposal site; and
 - vi. method of final disposal.

The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

- 12. For industrial facilities to which the requirements of 30 TAC Chapter 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC Code Chapter 361.

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OTHER REQUIREMENTS

1. The Executive Director has reviewed this action for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the Coastal Coordination Council (CCC) and has determined that the action is consistent with the applicable CMP goals and policies.
2. Violations of daily maximum limitations for the following pollutants shall be reported orally or by facsimile to TCEQ Region 12, within 24 hours from the time the permittee becomes aware of the violation followed by a written report within five working days to TCEQ Region 12 and the Enforcement Division (MC 224):

METALS AND CYANIDE

Arsenic (Total)	0.010
Cadmium (Total)	0.001
Chromium (Total)	0.010
Copper (Total)	0.010
Lead (Total)	0.005
Mercury (Total)	0.0002
Nickel (Total)	0.010
Selenium (Total)	0.010
Silver (Total)	0.002
Zinc (Total)	0.005
Cyanide (Total)	0.020

VOLATILE COMPOUNDS

Acrylonitrile	0.050
Benzene	0.010
Carbon Tetrachloride	0.010
Chloroethane	0.010
Chloroform	0.010
1,1-Dichloroethane	0.010
1,2-Dichloroethane	0.010
1,1-Dichloroethylene	0.010
Ethylbenzene	0.010
Methyl Chloride	0.020
Methylene Chloride	0.020
Toluene	0.010
Vinyl Chloride	0.010
Phenol	0.010

BASE/NEUTRAL COMPOUNDS

Chrysene	0.010
Phenanthrene	0.010

Test methods utilized shall be sensitive enough to demonstrate compliance with contained in this permit with consideration given to the minimum analytical level (MAL) for the parameters specified above the permit effluent limitations. Permit compliance/noncompliance determinations will be based on the effluent limitations.

When an analysis of an effluent sample for any of the parameters listed above indicates no detectable levels above the MAL and the test method detection level is as sensitive as the specified MAL, a value of zero (0) shall be used for that measurement when determining calculations and reporting requirements for the self-reporting form. This applies to determinations of daily maximum concentration, calculations of loading and daily averages, and other reportable results.

When a reported value is zero (0) based on this MAL provision, the permittee shall submit the following statement with the self-reporting form either as a separate attachment to the form or as a statement in the comments section of the form.

"The reported value(s) of zero (0) for [list parameter(s)] on the self-reporting form for [monitoring period date range] is based on the following conditions: 1) the analytical method used had a method detection level as sensitive as the MAL specified in the permit, and 2) the analytical results contained no detectable levels above the specified MAL."

When an analysis of an effluent sample for a parameter indicates no detectable levels and the test method detection level is not as sensitive as the MAL specified in the permit, or an MAL is not specified in the permit for that parameter, the level of detection achieved shall be used for that measurement when determining calculations and reporting requirements for the self-reporting form. A zero (0) may not be used.

3. The mixing zone for Outfall 001 is defined as a volume within a radius of 200 feet from the point of discharge. Chronic toxic criteria apply at the edge of the mixing zone.

The mixing zones for Outfalls 003 and 004 are defined as a volume within a radius of 32 feet from where the discharge occurs; acute toxic criteria apply at the edge of the mixing zone.

The mixing zone for Outfall 005 is defined as a volume within a radius of 28 feet from where the discharge occurs; acute toxic criteria apply at the edge of the mixing zone.

The mixing zone for Outfall 006 is defined as a volume within a distance of 50 feet; acute toxic criteria apply at the edge of the mixing zone.

4. The term "third-party biotreatable wastewaters" shall mean wastewater that is from third party sources, such as tank truck washing operations, container washing operations, tank cleaning operations or other washing operations that are similar to the on-going barge cleaning operations at Southwest Shipyard, L.P.
5. This permit does not provide authorization for the permittee to accept wastewaters from third party sources, neither does it prohibit acceptance of such wastewaters. This permit only provides the authorization to discharge these wastes. Should authorization to accept third party waste be required, it is the obligation of the permittee to obtain such authorization from the appropriate regulatory authority.
6. For wastewaters processed by the biological wastewater treatment system, the residual cargo shall be removed and not processed via the biological wastewater treatment system. Wash water, contaminated groundwater, and biotreatable third-party wastewater may be processed by the biological treatment system.
7. The following Best Management Practices (BMPs) are applicable to the dry dock operations and are to be followed and documented.

BMP 1. Control of Large Solid Materials. Scrap metal, wood, plastic, miscellaneous trash such as paper and glass, industrial scrap and waste such as insulation, welding rods, packaging, etc. shall be removed from the dry dock floor prior to flooding or sinking.

BMP 2. Control of Blasting Debris. Clean-up of spent paint and abrasive shall be undertaken as part of the regular repair or production activities to the degree technically feasible to prevent its entry into the drainage systems. Mechanical clean-up may be accomplished by mechanical sweepers, front loaders, or innovative equipment. Manual methods, include the use of shovels and brooms. Innovations and procedures which improve the effectiveness of clean-up operations shall be adopted, where they can be demonstrated as preventing the discharge of solids. Those portions of the dry dock floor which are reasonably accessible shall be scraped or broomed clean of spent abrasive prior to flooding.

After a vessel has been removed from the dry dock and the dock has been deflooded for repositioning of the keel and bilge blocks, the remaining areas of the floor which were previously inaccessible shall be cleaned by scraping or broom cleaning prior to the introduction of another vessel into the dry dock. The requirement to clean the previously inaccessible area shall be waived either in an emergency situation or when another vessel is ready to be introduced into the dry dock within fifteen (15) hours. Where tides are not a factor, this time shall be eight (8) hours.

BMP 3. Oil, Grease and Fuel Spills. During the dry dock period, oil, grease or fuel spills shall be prevented from reaching drainage systems and from discharge with drainage water. Clean-up shall be carried out promptly after an oil, grease, or fuel spill is detected.

BMP 4. Paint and Solvent Spills. Paint and solvent spills shall be treated as oil spills and segregated from discharging water. Spills shall be contained until clean-up is completed. Mixing of paint shall be carried out in locations and under conditions such that spills shall be prevented from entering drainage systems and discharging with the drainage water.

BMP 5. Abrasive Blasting Debris (Graving Docks). Abrasive blasting debris in graving docks shall be prevented from discharge with drainage water. Such blasting debris as deposits in drainage channels shall be removed promptly and as completely as is feasible. In some cases, covers can be placed over the drainage channels, trenches, and other drains in graving docks to prevent entry of abrasive blasting debris.

BMP 6. Contact Between Water and Debris. Shipboard cooling and process water shall be directed so as to minimize contact with spent abrasive and paint and other debris. Contact of spent abrasive and paint by water can be reduced by proper segregation and control of wastewater streams. When debris is present, hosing of the dock should be minimized. When hosing is used as a removal method, appropriate methods should be incorporated to prevent accumulation of debris in drainage systems and to promptly remove it from such systems to prevent its discharge with wastewater.

BMP 7. Maintenance of Gate Seals and Closure. Leakage through the gate shall be minimized by repair and maintenance of the sealing surfaces and proper seating of the gate. Appropriate channeling of leakage water to the drainage system should be accomplished in a manner that reduces contact with debris.

BMP 8. Maintenance of Hoses, Soil Chutes, and Piping. Leaking connections, valves, pipes, hoses, and soil chutes carrying either water or wastewater shall be replaced or repaired immediately. Soil chute and hose connections to the vessel and to receiving lines or containers shall be positive and as leak free as practicable.

8. There shall be no discharge of materials either listed or characterized as hazardous.
9. When wastewater from the groundwater remediation project is being discharged to the wastewater treatment plant, additional sampling shall be conducted at Outfall 001 at a minimum frequency of once per quarter, by grab sample, subject to the following effluent limitations:

Effluent CharacteristicDischarge Limitations

Daily Max (µg/L)

Total Arsenic	494.3
Cyanide (Available)	18.6
Acrylonitrile	242
Carbon Tetrachloride	380
Chloroethane	295
Chloroform	325
Chrysene	59
1,1-Dichloroethane	59
1,2-Dichloroethane	574
1,1-Dichloroethylene	60
Ethylbenzene	380
Methylene Chloride	170
Methyl Chloride	295
Toluene	80
Vinyl Chloride	268

10. The permittee is hereby placed on notice that this permit may be reviewed by the TCEQ after the completion of any new intensive water quality survey on Segment No. 1005 of the Sabine River Basin and any subsequent updating of the water quality model for Segment No. 1005, in order to determine if the limitations and conditions contained herein are consistent with any such revised model. The permit may be amended, pursuant to 30 TAC Sections 305.62, as a result of such review.
11. The permittee shall take Total Suspended Solids (TSS) samples from the San Jacinto River upstream at a point just prior to each Outfall (003, 004 and 005), and where the water overflows the dry dock. The permittee shall also take Outfall TSS sample from each outfall (at a point just prior to each entering the San Jacinto River). The permittee shall then, for each outfall, subtract the upstream (San Jacinto River) TSS measure value from the Outfall TSS measure value, and the difference shall be used as the net TSS discharged to the river. The net TSS discharged, will be used to evaluate compliance with the TSS effluent limitations in this permit.

CHRONIC BIOMONITORING REQUIREMENTS: MARINE

The provisions of this Section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. Scope, Frequency and Methodology

- a. The permittee shall test the effluent for toxicity in accordance with the provisions below. Such testing will determine if an appropriately dilute effluent sample adversely affects the survival or growth of the test organisms.
- b. The permittee shall conduct the following toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified below and in accordance with "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition" (EPA-821-R-02-014), or its most recent update:
 - 1) Chronic static renewal 7-day survival and growth test using the mysid shrimp (*Mysidopsis bahia*) (Method 1007.0). A minimum of eight replicates with five organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.
 - 2) Chronic static renewal 7-day larval survival and growth test using the inland silverside (*Menidia beryllina*) (Method 1006.0). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution. This test shall be conducted once per quarter.

The permittee must perform and report a valid test for each test species during the prescribed reporting period. An invalid test must be repeated during the same reporting period. An invalid test is herein defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit. All test results, valid or invalid, must be submitted as described below.

- c. The permittee shall use five effluent dilution concentrations and a control in each toxicity test. These additional effluent concentrations are 3%, 5%, 6%, 8%, and 11% effluent. The critical dilution, defined as 8% effluent, is the effluent concentration representative of the proportion of effluent in the receiving water during critical low flow or critical mixing conditions.
- d. This permit may be amended to require a WET limit, a Chemical-Specific (CS) limit, a Best Management Practice (BMP), or other appropriate actions to address toxicity to the mysid shrimp. The permittee may be required to conduct a Toxicity Reduction Evaluation after multiple toxic events.
- e. Thirty-four months from the permit issue date, the sublethal (growth) No Observed Effect Concentration (NOEC) effluent limitation of not less than 8% (see the EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS section) for the inland silverside becomes effective.
- f. Thirty-four months from the permit issue date, if an inland silverside test fails to pass the sublethal endpoint at the 8% effluent, the testing frequency will increase to monthly until such time compliance with the NOEC effluent limitation is demonstrated for a period of three consecutive months, at which time the quarterly testing frequency may be resumed.

g. Testing Frequency Reduction

- 1) If none of the first four consecutive quarterly mysid shrimp tests demonstrates significant toxicity, the permittee may submit this information in writing and, upon approval, reduce the testing frequency to once per year.
- 2) If one or more of the first four consecutive quarterly mysid shrimp tests demonstrates significant toxicity, the permittee shall continue quarterly testing until the permit is reissued. If a testing frequency reduction had been previously granted and a subsequent test demonstrates significant toxicity, the permittee will resume a quarterly testing frequency until the permit is reissued.

2. Required Toxicity Testing Conditions

a. Test Acceptance - The permittee shall repeat any toxicity test, including the control and all effluent dilutions, which fails to meet any of the following criteria:

- 1) a control mean survival of 80% or greater;
- 2) a control mean dry weight of surviving mysid shrimp of 0.20 mg or greater;
- 3) a control mean dry weight for surviving unpreserved inland silverside of 0.50 mg or greater and 0.43 mg or greater for surviving preserved inland silverside.
- 4) a control Coefficient of Variation percent (CV%) between replicates of 40 or less in the growth and survival tests.
- 5) a critical dilution CV% of 40 or less in the growth and survival endpoints for either growth and survival test. However, if statistically significant lethal or nonlethal effects are exhibited at the critical dilution, a CV% greater than 40 shall not invalidate the test.
- 6) a Percent Minimum Significant Difference of 37 or less for mysid shrimp growth;
- 7) a Percent Minimum Significant Difference of 28 or less for inland silverside growth.

b. Statistical Interpretation

- 1) For the mysid shrimp and the inland silverside larval survival and growth tests, the statistical analyses used to determine if there is a significant difference between the control and an effluent dilution shall be in accordance with the manual referenced above, or its most recent update.
- 2) The permittee is responsible for reviewing test concentration-response relationships to ensure that calculated test-results are interpreted and reported correctly. The EPA manual, "Method Guidance and Recommendation for Whole Effluent Toxicity (WET) Testing (40 CFR Part 136)" (EPA 821-B-00-004), provides guidance on determining the validity of test results.

- 3) If significant lethality is demonstrated (that is, there is a statistically significant difference in survival at the critical dilution when compared to the control), the conditions of test acceptability are met, and the survival of the test organisms are equal to or greater than 80% in the critical dilution and all dilutions below that, then the permittee shall report a survival No Observed Effect Concentration (NOEC) of not less than the critical dilution for the reporting requirements.
- 4) The NOEC is defined as the greatest effluent dilution at which no significant effect is demonstrated. The Lowest Observed Effect Concentration (LOEC) is defined as the lowest effluent dilution at which a significant effect is demonstrated. A significant effect is herein defined as a statistically significant difference between the survival, reproduction, or growth of the test organism(s) in a specified effluent dilution compared to the survival, reproduction, or growth of the test organism(s) in the control (0% effluent).
- 5) The use of NOECs and LOECs assumes either a monotonic (continuous) concentration-response relationship or a threshold model of the concentration-response relationship. For any test result that demonstrates a non-monotonic (non-continuous) response, the NOEC should be determined based on the guidance manual referenced in Item 2 above.
- 6) Pursuant to the responsibility assigned to the permittee in Part 2.b.2), test results that demonstrate a non-monotonic (non-continuous) concentration-response relationship may be submitted, prior to the due date, for technical review. The above-referenced guidance manual will be used when making a determination of test acceptability.
- 7) Staff will review test results for consistency with rules, procedures, and permit requirements.

c. Dilution Water

- 1) Dilution water used in the toxicity tests shall be the receiving water collected as close to the point of discharge as possible but unaffected by the discharge.
- 2) Where the receiving water proves unsatisfactory as a result of preexisting instream toxicity (i.e. fails to fulfill the test acceptance criteria of item 2.a.), the permittee may substitute synthetic dilution water for the receiving water in all subsequent tests provided the unacceptable receiving water test met the following stipulations:
 - a) a synthetic lab water control was performed (in addition to the receiving water control) which fulfilled the test acceptance requirements of item 2.a;
 - b) the test indicating receiving water toxicity was carried out to completion (i.e., 7 days);
 - c) the permittee submitted all test results indicating receiving water toxicity with the reports and information required in Part 3 of this Section.
- 3) The synthetic dilution water shall consist of a standard, reconstituted seawater. Upon approval, the permittee may substitute other dilution water with chemical and physical characteristics similar to that of the receiving water.

d. Samples and Composites

- 1) The permittee shall collect a minimum of three composite samples from Outfall 001. The second and third composite samples will be used for the renewal of the dilution concentrations for each toxicity test.
- 2) The permittee shall collect the composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis.
- 3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the first composite sample. The holding time for any subsequent composite sample shall not exceed 72 hours. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.
- 4) If Outfall 001 ceases discharging during the collection of effluent samples, the requirements for the minimum number of effluent samples, the minimum numbers of effluent portions, and the sample holding time, are waived during that sampling period. However, the permittee must have collected an effluent composite sample volume sufficient to complete the required toxicity tests with renewal of the effluent. When possible, the effluent samples used for the toxicity tests shall be collected on separate days if the discharge occurs over multiple days. The sample collection duration and the static renewal protocol associated with the abbreviated sample collection must be documented in the full report.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in any Part of this Section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division.

- a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced above, or its most recent update, for every valid and invalid toxicity test initiated whether carried to completion or not.
- b. The permittee shall routinely report the results of each biomonitoring test on the Table 1 forms provided with this permit.
 - 1) Annual biomonitoring test results are due on or before January 20th for biomonitoring conducted during the previous 12 month period.
 - 2) Semiannual biomonitoring test results are due on or before July 20th and January 20th for biomonitoring conducted during the previous 6 month period.
 - 3) Quarterly biomonitoring test results are due on or before April 20th, July 20th, October 20th, and January 20th, for biomonitoring conducted during the previous calendar quarter.
 - 4) Monthly biomonitoring test results are due on or before the 20th day of the month following sampling.

c. Enter the following codes for the appropriate parameters for valid tests only:

- 1) For the mysid shrimp, Parameter TLP3E, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
- 2) For the mysid shrimp, Parameter TOP3E, report the NOEC for survival.
- 3) For the mysid shrimp, Parameter TXP3E, report the LOEC for survival.
- 4) For the mysid shrimp, Parameter TWP3E, enter a "1" if the NOEC for growth is less than the critical dilution; otherwise, enter a "0."
- 5) For the mysid shrimp, Parameter TPP3E, report the NOEC for growth.
- 6) For the mysid shrimp, Parameter TYP3E, report the LOEC for growth.
- 7) For the inland silverside, Parameter TLP6B, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
- 8) For the inland silverside, Parameter TOP6B, report the NOEC for survival.
- 9) For the inland silverside, Parameter TXP6B, report the LOEC for survival.
- 10) For the inland silverside, Parameter TWP6B, enter a "1" if the NOEC for growth is less than the critical dilution; otherwise, enter a "0."
- 11) For the inland silverside, Parameter TPP6B, report the NOEC for growth.
- 12) For the inland silverside, Parameter TYP6B, report the LOEC for growth.

d. Enter the following codes for mysid shrimp retests only:

- 1) For retest number 1, Parameter 22415, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."
- 2) For retest number 2, Parameter 22416, enter a "1" if the NOEC for survival is less than the critical dilution; otherwise, enter a "0."

e. The permittee shall report the sublethal WET values for the 30-day average and the 7-day minimum under Parameter No. 22414 for the appropriate reporting period for the inland silverside. If more than one valid inland silverside test was performed during the reporting period, the NOECs will be averaged arithmetically and reported as the daily average NOEC. The data submitted should reflect the lowest sublethal results during the reporting period.

4. Persistent Toxicity

The requirements of this Part apply only to the mysid shrimp and only when a test demonstrates a significant effect at the critical dilution. A significant effect is defined as a statistically significant difference between a specified endpoint (survival or growth) of the test organism in a specified effluent dilution when compared to the specified endpoint of the test organism in the control. Significant lethality is defined as a statistically significant difference in survival at the critical dilution when compared to the survival of the test organism in the control. Significant sublethality is defined as a statistically significant difference in growth at the critical dilution when compared to the growth of the test organism in the control.

- a. The permittee shall conduct a total of 2 additional tests (retests) for any mysid shrimp test that demonstrates a significant effect (lethal or sublethal) at the critical dilution. The two retests shall be conducted monthly during the next two consecutive months. The permittee shall not substitute either of the two retests in lieu of routine toxicity testing. All reports shall be submitted within 20 days of test completion. Test completion is defined as the last day of the test.
- b. If the retests are performed due to a demonstration of significant lethality, and one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5. The provisions of item 4.a. are suspended upon completion of the two retests and submittal of the TRE Action Plan and Schedule defined in Part 5.

If neither test demonstrates significant lethality and the permittee is testing under the reduced testing frequency provision of Part 1.e., the permittee shall return to a quarterly testing frequency for that species.

- c. If the two retests are performed due to a demonstration of significant sublethality, and one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall again perform two retests as stipulated in item 4.a.
- d. If the two retests are performed due to a demonstration of significant sublethality, and neither test demonstrates significant lethality, the permittee shall continue testing at the quarterly frequency.
- e. Regardless of whether retesting for lethal or sublethal effects or a combination of the two, no more than one retest per month is required for a species.

5. Toxicity Reduction Evaluation

- a. Within 45 days of the retest that demonstrates significant lethality, or within 45 days of being so instructed due to multiple toxic events, the permittee shall submit a General Outline for initiating a Toxicity Reduction Evaluation (TRE). The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.
- b. Within 90 days of the retest that demonstrates significant lethality, or within 90 days of being so instructed due to multiple toxic events, the permittee shall submit a TRE Action Plan and Schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analysis to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE Action Plan shall lead to the successful elimination of significant lethality for both test species defined in item 1.b. As a minimum, the TRE Action Plan shall include the following:
 - 1) Specific Activities - The TRE Action Plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled, "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures"

(EPA/600/6-91/003), or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled, "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;

- 2) **Sampling Plan** - The TRE Action Plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the toxicity characterization/ identification/ confirmation procedures, and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant(s) and source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant(s) and source(s) of effluent toxicity;
 - 3) **Quality Assurance Plan** - The TRE Action Plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, as well as mechanisms to detect artifactual toxicity; and
 - 4) **Project Organization** - The TRE Action Plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.
- c. Within 30 days of submittal of the TRE Action Plan and Schedule, the permittee shall implement the TRE with due diligence.
- d. The permittee shall submit quarterly TRE Activities Reports concerning the progress of the TRE. The quarterly reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:
- 1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant(s) performed during the quarter;
 - 2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;
 - 3) any data and substantiating documentation which identifies the pollutant(s) and source(s) of effluent toxicity;
 - 4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;
 - 5) any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to meet no significant lethality at the critical dilution; and

- 6) any changes to the initial TRE Plan and Schedule that are believed necessary as a result of the TRE findings.

Copies of the TRE Activities Report shall also be submitted to the U.S. EPA Region 6 office.

- e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species; testing for the less sensitive species shall continue at the frequency specified in Part 1.b.
- f. If the effluent ceases to effect significant lethality (herein as defined below) the permittee may end the TRE. A "cessation of lethality" is defined as no significant lethality for a period of 12 consecutive months with at least monthly testing. At the end of the 12 months, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b. The permittee may only apply the "cessation of lethality" provision once.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. "Corrective actions" are herein defined as proactive efforts which eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

- g. The permittee shall complete the TRE and submit a Final Report on the TRE Activities no later than 28 months from the last test day of the retest that confirmed significant lethal effects at the critical dilution. The permittee may petition the Executive Director (in writing) for an extension of the 28-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE. The report shall provide information pertaining to the specific control mechanism(s) selected that will, when implemented, result in reduction of effluent toxicity to no significant lethality at the critical dilution. The report will also provide a specific corrective action schedule for implementing the selected control mechanism(s). A copy of the TRE Final Report shall also be submitted to the U.S. EPA Region 6 office.
- h. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements, where necessary, to require a compliance schedule for implementation of corrective actions, to specify a WET limit, to specify a BMP, and to specify CS limits.

TABLE 1 (SHEET 1 OF 4)

MYSID SHRIMP SURVIVAL AND GROWTH

Dates and Times No. 1 FROM: _____ Date Time _____ Date Time _____
 Composites
 Collected No. 2 FROM: _____ TO: _____
 No. 3 FROM: _____ TO: _____

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving water _____ Synthetic dilution water

MYSID SHRIMP SURVIVAL

Percent Effluent	Percent Survival in Replicate Chambers								Mean Percent Survival			CV%*
	A	B	C	D	E	F	G	H	24h	48h	7 day	
0%												
3%												
5%												
6%												
8%												
11%												

* Coefficient of Variation = standard deviation x 100/mean

DATA TABLE FOR GROWTH OF MYSID SHRIMP

Replicate	Mean dry weight in milligrams in replicate chambers					
	0%	3%	5%	6%	8%	11%
A						
B						
C						
D						
E						

TABLE 1 (SHEET 2 OF 4)

MYSID SHRIMP SURVIVAL AND GROWTH

DATA TABLE FOR GROWTH OF MYSID SHRIMP (Continued)

Replicate	Mean dry weight in milligrams in replicate chambers					
	0%	3%	5%	6%	8%	11%
F						
G						
H						
Mean Dry Weight (mg)						
CV%*						
PMSD						

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

CRITICAL DILUTION (8%): _____ YES _____ NO

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to non-lethal effects?

CRITICAL DILUTION (8%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC\LOEC below:

a.) NOEC survival = _____ % effluent

b.) LOEC survival = _____ % effluent

c.) NOEC growth = _____ % effluent

d.) LOEC growth = _____ % effluent

TABLE 1 (SHEET 3 OF 4)

INLAND SILVERSIDE MINNOW LARVAL SURVIVAL AND GROWTH TEST

Dates and Times No. 1 FROM: _____ Date Time _____ Date Time _____ TO: _____
 Composites
 Collected No. 2 FROM: _____ TO: _____
 No. 3 FROM: _____ TO: _____

Test initiated: _____ am/pm _____ date

Dilution water used: _____ Receiving water _____ Synthetic Dilution water

INLAND SILVERSIDE SURVIVAL

Percent Effluent	Percent Survival in Replicate Chambers					Mean Percent Survival			CV%*
	A	B	C	D	E	24h	48h	7 days	
0%									
3%									
5%									
6%									
8%									
11%									

* Coefficient of Variation = standard deviation x 100/mean

TABLE 1 (SHEET 4 OF 4)

INLAND SILVERSIDE LARVAL SURVIVAL AND GROWTH TEST

INLAND SILVERSIDE GROWTH

Percent Effluent	Average Dry Weight in milligrams in replicate chambers					Mean Dry Weight (mg)	CV%*
	A	B	C	D	E		
0%							
3%							
5%							
6%							
8%							
11%							
PMSD							

Weights are for: ____ preserved larvae, or ____ unpreserved larvae

1. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

Is the mean survival at 7 days significantly less than the control survival for the % effluent corresponding to lethality?

CRITICAL DILUTION (8%): _____ YES _____ NO

2. Dunnett's Procedure or Steel's Many-One Rank Test or Wilcoxon Rank Sum Test (with Bonferroni adjustment) or t-test (with Bonferroni adjustment) as appropriate:

Is the mean dry weight (growth) at 7 days significantly less than the control's dry weight (growth) for the % effluent corresponding to non-lethal effects?

CRITICAL DILUTION (8%): _____ YES _____ NO

3. Enter percent effluent corresponding to each NOEC/LOEC below:

a.) NOEC survival = _____ % effluent

b.) LOEC survival = _____ % effluent

c.) NOEC growth = _____ % effluent

d.) LOEC growth = _____ % effluent

24-HOUR ACUTE BIOMONITORING REQUIREMENTS: MARINE

The provisions of this Section apply to Outfall 001 for whole effluent toxicity (WET) testing.

1. Scope, Frequency and Methodology

- a. The permittee shall test the effluent for lethality in accordance with the provisions in this Section. Such testing will determine compliance with the Surface Water Quality Standard, 307.6(e)(2)(B), of greater than 50% survival of the appropriate test organisms in 100% effluent for a 24-hour period.
- b. The toxicity tests specified shall be conducted once per six months. The permittee shall conduct the following toxicity tests utilizing the test organisms, procedures, and quality assurance requirements specified in this section of the permit and in accordance with "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition" (EPA-821-R-02-012), or its most recent update:
 - 1) Acute 24-hour static toxicity test using the mysid shrimp (*Mysidopsis bahia*). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution.
 - 2) Acute 24-hour static toxicity test using the inland silverside (*Menidia beryllina*). A minimum of five replicates with eight organisms per replicate shall be used in the control and in each dilution.

A valid test result must be submitted for each reporting period. The permittee must report, then repeat, an invalid test during the same reporting period. The repeat test shall include the control and all effluent dilutions and use the appropriate number of organisms and replicates, as specified above. An invalid test is herein defined as any test failing to satisfy the test acceptability criteria, procedures, and quality assurance requirements specified in the test methods and permit.

- c. In addition to an appropriate control, a 100% effluent concentration shall be used in the toxicity tests. Except as discussed in item 2.b., the control and dilution water shall consist of standard, synthetic, reconstituted seawater.
- d. This permit may be amended to require a Whole Effluent Toxicity (WET) limit, a Best Management Practice (BMP), a Chemical-Specific (CS) limit, additional toxicity testing, and other appropriate actions to address toxicity. The permittee may be required to conduct a Toxicity Reduction Evaluation after multiple toxic events.

2. Required Toxicity Testing Conditions

- a. Test Acceptance - The permittee shall repeat any toxicity test, including the control, if the control fails to meet a mean survival equal to or greater than 90%.
- b. Dilution Water - In accordance with item 1.c., the control and dilution water shall consist of a standard, synthetic, reconstituted seawater.
- c. Samples and Composites
 - 1) The permittee shall collect one composite sample from Outfall 001.

- 2) The permittee shall collect the composite samples such that the samples are representative of any periodic episode of chlorination, biocide usage, or other potentially toxic substance discharged on an intermittent basis.
- 3) The permittee shall initiate the toxicity tests within 36 hours after collection of the last portion of the composite sample. Samples shall be maintained at a temperature of 0-6 degrees Centigrade during collection, shipping, and storage.
- 4) If Outfall 001 ceases discharging during the collection of the effluent composite sample, the requirements for the minimum number of effluent portions are waived. However, the permittee must have collected a composite sample volume sufficient for completion of the required test. The abbreviated sample collection, duration, and methodology must be documented in the full report.

3. Reporting

All reports, tables, plans, summaries, and related correspondence required in any Part of this Section shall be submitted to the attention of the Standards Implementation Team (MC 150) of the Water Quality Division:

- a. The permittee shall prepare a full report of the results of all tests conducted in accordance with the manual referenced above, or its most recent update, for every valid and invalid toxicity test initiated.
- b. The permittee shall routinely report the results of each biomonitoring test on the Table 2 forms provided with this permit.
 - 1) Semiannual biomonitoring test results are due on or before January 20th and July 20th for biomonitoring conducted during the previous 6 month period.
 - 2) Quarterly biomonitoring test results are due on or before January 20th, April 20th, July 20th, and October 20th, for biomonitoring conducted during the previous calendar quarter.
- c. Enter the following codes for the appropriate parameters for valid tests only:
 - 1) For the mysid shrimp, Parameter TIE3E, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."
 - 2) For the inland silverside, Parameter TIE6B, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter a "1."
- d. Enter the following codes for retests only:
 - 1) For retest number 1, Parameter 22415, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."
 - 2) For retest number 2, Parameter 22416, enter a "0" if the mean survival at 24-hours is greater than 50% in the 100% effluent dilution; if the mean survival is less than or equal to 50%, enter "1."

4. Persistent Mortality

The requirements of this Part apply when a toxicity test demonstrates significant lethality, here defined as a mean mortality of 50% or greater to organisms exposed to the 100% effluent concentration after 24-hours.

- a. The permittee shall conduct 2 additional tests (retests) for each species that demonstrates significant lethality. The two retests shall be conducted once per week for 2 weeks. Five effluent dilution concentrations in addition to an appropriate control shall be used in the retests. These additional effluent concentrations are 6%, 13%, 25%, 50% and 100% effluent. The first retest shall be conducted within 15 days of the laboratory determination of significant lethality. All test results shall be submitted within 20 days of test completion of the second retest. Test completion is defined as the 24th hour.
- b. If one or both of the two retests specified in item 4.a. demonstrates significant lethality, the permittee shall initiate the TRE requirements as specified in Part 5 of this Section.

5. Toxicity Reduction Evaluation

- a. Within 45 days of the retest that demonstrates significant lethality, the permittee shall submit a General Outline for initiating a Toxicity Reduction Evaluation (TRE). The outline shall include, but not be limited to, a description of project personnel, a schedule for obtaining consultants (if needed), a discussion of influent and effluent data available for review, a sampling and analytical schedule, and a proposed TRE initiation date.
- b. Within 90 days of the retest that demonstrates significant lethality, the permittee shall submit a TRE Action Plan and Schedule for conducting a TRE. The plan shall specify the approach and methodology to be used in performing the TRE. A TRE is a step-wise investigation combining toxicity testing with physical and chemical analysis to determine actions necessary to eliminate or reduce effluent toxicity to a level not effecting significant lethality at the critical dilution. The TRE Action Plan shall lead to the successful elimination of significant lethality for both test species defined in item 1.b. As a minimum, the TRE Action Plan shall include the following:
 - 1) Specific Activities - The TRE Action Plan shall specify the approach the permittee intends to utilize in conducting the TRE, including toxicity characterizations, identifications, confirmations, source evaluations, treatability studies, and alternative approaches. When conducting characterization analyses, the permittee shall perform multiple characterizations and follow the procedures specified in the document entitled, "Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures" (EPA/600/6-91/003), or alternate procedures. The permittee shall perform multiple identifications and follow the methods specified in the documents entitled, "Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/080) and "Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity" (EPA/600/R-92/081). All characterization, identification, and confirmation tests shall be conducted in an orderly and logical progression;
 - 2) Sampling Plan - The TRE Action Plan should describe sampling locations, methods, holding times, chain of custody, and preservation techniques. The effluent sample volume collected for all tests shall be adequate to perform the

toxicity characterization/ identification/ confirmation procedures, and chemical-specific analyses when the toxicity tests show significant lethality. Where the permittee has identified or suspects specific pollutant(s) and source(s) of effluent toxicity, the permittee shall conduct, concurrent with toxicity testing, chemical-specific analyses for the identified and suspected pollutant(s) and source(s) of effluent toxicity;

- 3) Quality Assurance Plan - The TRE Action Plan should address record keeping and data evaluation, calibration and standardization, baseline tests, system blanks, controls, duplicates, spikes, toxicity persistence in the samples, randomization, reference toxicant control charts, as well as mechanisms to detect artifactual toxicity; and
 - 4) Project Organization - The TRE Action Plan should describe the project staff, project manager, consulting engineering services (where applicable), consulting analytical and toxicological services, etc.
- c. Within 30 days of submittal of the TRE Action Plan and Schedule, the permittee shall implement the TRE with due diligence.
- d. The permittee shall submit quarterly TRE Activities Reports concerning the progress of the TRE. The quarterly TRE Activities Reports are due on or before April 20th, July 20th, October 20th, and January 20th. The report shall detail information regarding the TRE activities including:
- 1) results and interpretation of any chemical-specific analyses for the identified and suspected pollutant(s) performed during the quarter;
 - 2) results and interpretation of any characterization, identification, and confirmation tests performed during the quarter;
 - 3) any data and substantiating documentation which identifies the pollutant(s) and source(s) of effluent toxicity;
 - 4) results of any studies/evaluations concerning the treatability of the facility's effluent toxicity;
 - 5) any data which identifies effluent toxicity control mechanisms that will reduce effluent toxicity to the level necessary to eliminate significant lethality; and
 - 6) any changes to the initial TRE Plan and Schedule that are believed necessary as a result of the TRE findings.
- Copies of the TRE Activities Report shall also be submitted to the U.S. EPA Region 6 office.
- e. During the TRE, the permittee shall perform, at a minimum, quarterly testing using the more sensitive species; testing for the less sensitive species shall continue at the frequency specified in Part 1.b.

- f. If the effluent ceases to effect significant lethality (herein as defined below) the permittee may end the TRE. A "cessation of lethality" is defined as no significant lethality for a period of 12 consecutive weeks with at least weekly testing. At the end of the 12 weeks, the permittee shall submit a statement of intent to cease the TRE and may then resume the testing frequency specified in Part 1.b. The permittee may only apply the "cessation of lethality" provision once.

This provision accommodates situations where operational errors and upsets, spills, or sampling errors triggered the TRE, in contrast to a situation where a single toxicant or group of toxicants cause lethality. This provision does not apply as a result of corrective actions taken by the permittee. "Corrective actions" are herein defined as proactive efforts which eliminate or reduce effluent toxicity. These include, but are not limited to, source reduction or elimination, improved housekeeping, changes in chemical usage, and modifications of influent streams and effluent treatment.

The permittee may only apply this cessation of lethality provision once. If the effluent again demonstrates significant lethality to the same species, the permit will be amended to add a WET limit with a compliance period, if appropriate. However, prior to the effective date of the WET limit, the permittee may apply for a permit amendment removing and replacing the WET limit with an alternate toxicity control measure by identifying and confirming the toxicant and an appropriate control measure.

- g. The permittee shall complete the TRE and submit a Final Report on the TRE Activities no later than 18 months from the last test day of the retest that demonstrates significant lethality. The permittee may petition the Executive Director (in writing) for an extension of the 18-month limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE. The report shall specify the control mechanism(s) that will, when implemented, reduce effluent toxicity as specified in item 5.g. The report will also specify a corrective action schedule for implementing the selected control mechanism(s). A copy of the TRE Final Report shall also be submitted to the U.S. EPA Region 6 office.
- h. Within 3 years of the last day of the test confirming toxicity, the permittee shall comply with 307.6(e)(2)(B), which requires greater than 50% survival of the test organism in 100% effluent at the end of 24-hours. The permittee may petition the Executive Director (in writing) for an extension of the 3-year limit. However, to warrant an extension the permittee must have demonstrated due diligence in their pursuit of the TIE/TRE and must prove that circumstances beyond their control stalled the TIE/TRE.

The requirement to comply with 307.6(e)(2)(B) may be exempted upon proof that toxicity is caused by an excess, imbalance, or deficiency of dissolved salts. This exemption excludes instances where individually toxic components (e.g. metals) form a salt compound. Following the exemption, the permit may be amended to include an ion-adjustment protocol, alternate species testing, or single species testing.

- i. Based upon the results of the TRE and proposed corrective actions, this permit may be amended to modify the biomonitoring requirements where necessary, to require a compliance schedule for implementation of corrective actions, to specify a WET limit, to specify a BMP, and to specify a CS limit.

TABLE 2 (SHEET 1 OF 2)
MYSID SHRIMP SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC₅₀ below:

24 hour LC₅₀ = _____ % effluent

TABLE 2 (SHEET 2 OF 2)
INLAND SILVERSIDE SURVIVAL

GENERAL INFORMATION

	Time	Date
Composite Sample Collected		
Test Initiated		

PERCENT SURVIVAL

Time	Rep	Percent effluent					
		0%	6%	13%	25%	50%	100%
24h	A						
	B						
	C						
	D						
	E						
	MEAN						

Enter percent effluent corresponding to the LC₅₀ below:

24 hour LC₅₀ = _____% effluent

ATTACHMENT B

Wastestream Contributions

Outfall No.: 001

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Third-party Barge Wastewater and Wash water	0.043	43
Third-party Truck Wastewater and Wash Water	0.010	10
Marine Vessel Ballast Water	0.002	2
Groundwater Remediation Project Wastewater	0	0
Sanitary Wastewater	0.005	5
Water Backwash Filter Blowdown	0.0015	1.5
Utility Water	0.0285	28.5
Storm water, Contaminated and Uncontaminated) (50 inches of rainfall averaged over 365 days.)	0.010	10
	0.100	100

Outfall No.: 003/004/005

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Discharge from Dry Dock No. 8 (OF 003)	0.03	100
Discharge from Dry Dock No. 11 (OF 004)	0.03	100
Discharge from Dry Dock No. 12 (OF 005)	0.03	100

Outfall No.: 006

Contributing Wastestreams	Volume (MGD)	% of Total Flow
Ballast Water	0.03	100

ATTACHMENT C

FW: WQ0002605000, Southwest Shipyard L.P. - Additional Information Required

Dan Irvin [Dan.Irvin@swslp.com]

Sent: Thursday, May 23, 2019 07:15

To: Rod Johnson

From: Shannon Gibson

[mailto:Shannon.Gibson@tceq.texas.gov]

Sent: Monday, July 2, 2018 1:39 PM

To: Dan Irvin <Dan.Irvin@swslp.com>

Cc: Dennis Ford <dennis.ford@swslp.com>; Daniel, Bruce <BDaniel@trcsolu.ons.com>; Bernard Diaz <bernard.diaz@swslp.com>

Subject: RE: WQ0002605000, Southwest Shipyard L.P. - Additional Information Required

Again, thank you for this information.

Based on the below, the definition for Third-Party Biotreatable Wastewater will be amended to include wastewaters received from barges and tractor trailer in the draft permit.

Best Regards,
Shannon Gibson
Environmental Permit Specialist
Industrial Wastewater Permitting - MC 148
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087
(512) 239 – 4284

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From: Dan Irvin [<mailto:Dan.Irvin@swslp.com>]

Sent: Sunday, July 1, 2018 1:58 PM

To: Shannon Gibson <Shannon.Gibson@tceq.texas.gov>

Cc: Dennis Ford <dennis.ford@swslp.com>; Daniel, Bruce <BDaniel@trcsolutions.com>; Bernard Diaz

<bernard.diaz@swslp.com>

Subject: RE: WQ0002605000, Southwest Shipyard L.P. -
Additional Information Required

Dear Ms. Gibson;

I am responding to your June 29th email requesting certain corrections to our industrial wastewater permit.

As you have described the errors, the corrections seem reasonable and I will ask Bruce Daniels (TRC) to proceed with the major amendment requests.

Besides the errors you have found, we would like TCEQ to clarify what we feel is the ambiguous definition of "Third-party wastewater".

The current permit language states, "Third-Party Biotreatable Wastewater" shall mean wastewater that is from third party sources such as tank washing operations, container washing operations, tank cleaning operations and other washing operations that are similar to the ongoing barge cleaning operations at Southwest Shipyard, L.P."

The permit definition says it is wastewater....that is similar to the ongoing cleaning operations, but only gives wash

water examples. We routinely manage wastewater that arrives by barges at our vessel cleaning facility and by tractor trailer rigs.

To clarify the definition, we would appreciate the incorporation of “wastewaters received from barges and tractor trailers” into the list of example waters to be treated. Wastewater from barges and tractor trailers would still be subject to the limitation that it be “similar to the on-going barge cleaning operations at Southwest Shipyard, L.P”.

As previously mentioned, I will be out of the office July 4th – July 12th. In my absence, please copy Dennis Ford, Bruce Daniels and Bernie Diaz on all correspondence.

Best regards,

Dan Irvin, P.E.

Vice President of Environmental Affairs

18310 Market Street

Channelview, TX 77530

Office: (713) 378-8732

Cell: (346) 307-0249

dan.irvin@swslp.com



Southwest Shipyard, L.P.

“Faster, Safer, Better”

From: Shannon Gibson

[<mailto:Shannon.Gibson@tceq.texas.gov>]

Sent: Friday, June 29, 2018 1:46 PM

To: Dan Irvin <Dan.Irvin@swslp.com>

Cc: Dennis Ford <dennis.ford@swslp.com>

Subject: RE: WQ0002605000, Southwest Shipyard L.P. -
Additional Information Required

Good afternoon Mr. Irvin,

I have identified two errors in the existing permit. Since this current permit action is a major amendment, we can correct the issues if the facility submits additional amendment requests regarding the following:

1. Existing effluent limitations for the discharge of groundwater from the remediation project were originally daily maxes, but they were incorporated

into the existing permit as daily averages. The facility stated that the groundwater from the remediation project is not currently being discharged; however, several limitations will become more stringent when screened against current water quality standards if the limitations remain daily average requirements.

If the facility wishes to correct these limits, please submit a major amendment request to correct the effluent limitations for total arsenic, cyanide (available), acrylonitrile, carbon tetrachloride, chloroethane, chloroform, chrysene, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, ethylbenzene, methylene chloride, methyl chloride, toluene, and vinyl chloride at Outfall 001 from daily average to daily maxes, because the converting the limitations to daily averages in the previous permit action was a technical mistake.

2. Effluent limitations for cyanide in the existing permit were originally based upon previous water quality screenings; however, limitations for free cyanide should have been specified at Outfalls 001 and 004, not available, amenable, or total. Please submit a major amendment request to correct the

effluent limitations for cyanide to free cyanide at
Outfall 001 and 004.

Feel free to contact me if you would like to discuss the
above issues further or if any questions or concerns arise.
Please confirm if the facility would like to proceed with the
amendment request by COB 7/5/2018.

Best Regards,
Shannon Gibson
Environmental Permit Specialist
Industrial Wastewater Permitting - MC 148
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087
(512) 239 – 4284

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From: Shannon Gibson

Sent: Tuesday, June 26, 2018 5:49 PM

To: 'dan.irvin@swslp.com' <dan.irvin@swslp.com>
Cc: 'dennis.ford@swslp.com' <dennis.ford@swslp.com>
Subject: WQ0002605000, Southwest Shipyard L.P. -
Additional Information Required

Good afternoon Mr. Irvin,

I am the permit writer drafting the amendment of permit no. WQ00002605000 for the Southwest Shipyard.

Additional information is required on the following items:

1. Technical report item 4
 - a. Outfall flow information – permitted and proposed
 - i. Outfalls 003, 004, 005, and 006 are currently intermittent and flow variable. The worksheet has flows entered if 0.03 MGD. Is the facility requesting flow limits at these outfalls?
 - b. Wastestream contributions
 - i. The wastestream volumes listed for Outfall 001 total to 0.1 MGD, however, the requested flow is 0.2 MGD. Please revise as needed to account for the total requested flow at Outfall 001.
2. Worksheet 1.0

- a. Date processes subject to 40 CFR 442, Subpart A began.
- b. Date processes subject to 40 CFR 442, Subpart C began.

Please submit this information by COB, 7/2/2018. Feel free to contact me with any questions or concerns as the above information is prepared.

Best Regards,
Shannon Gibson
Environmental Permit Specialist
Industrial Wastewater Permitting - MC 148
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087
(512) 239 – 4284

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ATTACHMENT D

STATEMENT OF BASIS/TECHNICAL SUMMARY AND
EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

DESCRIPTION OF APPLICATION

Applicant: Southwest Shipyard L.P.; Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0002605000 (EPA I.D. No. TX0092282)

Regulated Activity: Industrial wastewater permit

Type of Application: Major amendment with renewal

Request: Major amendment with renewal to authorize an increase in the daily average flow to 0.200 million gallons per day (MGD) at Outfall 001, removal of the authorization to discharge groundwater remediation project wastewater via Outfall 001 and the effluent limitations associated with that waste stream at Outfall 001, correction of the effluent limitations for total mercury at Outfall 001, and correction of the effluent limitations for total cyanide at Outfall 004 to free cyanide.

Authority: Federal Clean Water Act § 402; Texas Water Code § 26.027; 30 Texas Administrative Code (TAC) Chapter 305, Subchapters C-F, and Chapters 307 and 319; Commission policies; and Environmental Protection Agency (EPA) guidelines

EXECUTIVE DIRECTOR RECOMMENDATION

The executive director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit will expire at midnight, three years from the date of permit issuance.

REASON FOR PROJECT PROPOSED

The applicant applied to the Texas Commission on Environmental Quality (TCEQ) for an amendment of its existing permit. The proposed amendment would authorize an increase in the daily average flow to 0.200 MGD at Outfall 001, removal of the authorization to discharge groundwater remediation project wastewater via Outfall 001 and the effluent limitations associated with that waste stream at Outfall 001, correction of the effluent limitations for total mercury at Outfall 001, and correction of the limits for total cyanide at Outfall 004 to free cyanide.

PROJECT DESCRIPTION AND LOCATION

The applicant currently operates the Southwest Shipyard, a marine vessel cleaning and repair facility.

Source water for the facility is taken from two on-site wells or recycled treated effluent from the on-site wastewater treatment facility. Wastewater generated by the facility consists of barge washwater and ballast water, domestic wastewater, utility wastewater (vacuum tower cooling water and boiler blowdown), contaminated stormwater runoff, and steam condensate. The cleaning facility also routes transport truck wastewaters, which are similar to wastewater generated during barge cleaning operations. Wastewater and barge water from barge and tank truck cleaning operations, barge ballast water, domestic wastewater, and water softener backwash are currently processed in the on-site wastewater treatment plant. Boiler blowdown is currently routed back into the facility cleaning operation.

STATEMENT OF BASIS / TECHNICAL SUMMARY AND
EXECUTIVE DIRECTOR'S PRELIMINARY DECISION
TPDES Permit No. WQ0002605000

Groundwater remediation project wastewater is not currently being pumped due to the progress of the facility remediation program, and the facility has requested removal of the authorization to discharge this waste stream via Outfall 001.

Wastewater generated at the facility is routed to an on-site wastewater treatment plant. Treatment consists of routing the wastewater through pH neutralization, oil/water/solids separation, equalization tanks, bioreactors (in series), secondary clarification, chlorine disinfection, a sand filter (as needed), a sock filter (as needed), a carbon filter (as needed), and zeolite (ion exchange) filtration (as needed). The facility proposes to install a dissolved air flotation unit and a secondary clarifier to increase the treatment plant's capacity to manage organics and suspended solids, respectively, in the wastewater. Wastewaters routed through the on-site wastewater treatment plant are discharged via Outfall 001. Barge washwater and stormwater runoff from the dry docks (Outfalls 003, 004, and 005) are discharged directly to Segment No. 1005. Depending on ballast water quality, the source is either discharged directly via Outfall 006 or processed in the wastewater treatment plant for discharge via Outfall 001. Pretreated sludge is dewatered and pressed into filter cake via a filter press for off-site disposal.

The facility is located at 18310 Market Street in Channelview, Harris County, Texas.

Discharge Routes

The effluent is discharged via Outfalls 001, 003, 004, 005, and 006 directly to the Houston Ship Channel/San Jacinto River Tidal in Segment No. 1005 of the San Jacinto River Basin. The designated uses for Segment No. 1005 are noncontact recreation and high aquatic life use. The effluent limits in the draft permit will maintain and protect the existing instream uses. All determinations are preliminary and subject to additional review and revisions.

Antidegradation Review

In accordance with Title 30 TAC § 307.5 and TCEQ's *Procedures to Implement the Texas Surface Water Quality Standards* (IPs, June 2010), an antidegradation review of the receiving waters was performed. A Tier 1 antidegradation review has preliminarily determined that existing water quality uses will not be impaired by this permit action. Numerical and narrative criteria to protect existing uses will be maintained. A Tier 2 review has preliminarily determined that no significant degradation of water quality is expected in the Houston Ship Channel/San Jacinto River Tidal, which has been identified as having high aquatic life use. Existing uses will be maintained and protected. The preliminary determination can be reexamined and may be modified if new information is received.

Endangered Species Review

The discharge from this permit is not expected to have an effect on any federal endangered or threatened aquatic or aquatic-dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS's) biological opinion on the State of Texas authorization of the TPDES (September 14, 1998; October 21, 1998 update). To make this determination for TPDES permits, TCEQ and the EPA only considered aquatic or aquatic-dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS's biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Impaired Water Bodies

Segment No. 1005 is currently listed on the State's inventory of impaired and threatened waters (the 2014 Clean Water Act Section 303(d) list). The listings are for:

STATEMENT OF BASIS / TECHNICAL SUMMARY AND
EXECUTIVE DIRECTOR'S PRELIMINARY DECISION
TPDES Permit No. WQ0002605000

- dioxin and polychlorinated biphenyls (PCBs) in edible tissue from downstream I-10 to Morgans Point (AUs 1005_01 through 1005_04), and
- chlordane, dieldrin, and heptachlor epoxide in edible tissue from downstream I-10 to SH 146 (AUs 1005_01 through 1005_03).

Information provided with the application indicates that dioxin, PCBs (banned by the EPA in 1979), chlordane, dieldrin, and heptachlor epoxide are not present in the discharges from this facility. Analytical data provided with the application demonstrates that PCBs were non-detect in the effluent generated by this facility when tested down to the minimum analytical level, and this discharge is not expected to contribute to the impairment for PCBs in edible tissue. Discharges from this facility are not expected to contribute to the impairments for dioxin in edible tissue, because dioxins are not used nor manufactured at the facility and are not expected to be present in the wastewater discharged from this facility. Additionally, discharges from this facility are not expected to contribute to the impairments for chlordane in edible tissue, dieldrin in edible tissue, or heptachlor epoxide in edible tissue because these pesticides are not used or manufactured at the facility and are not expected to be present in the wastewater discharged from this facility.

Completed Total Maximum Daily Loads (TMDLs)

Segment No. 1005 is included in the agency's document *Fourteen Total Maximum Daily Loads for Nickel in the Houston Ship Channel System* (TMDL Project No. 1). The discharge was screened using the methods outlined in the IPs, TCEQ, June 2010 and *Implementation Plan for Dissolved Nickel in the Houston Ship Channel* (TMDL Implementation Plan), TCEQ, July 2001. The revised daily average effluent limitation for total nickel in the permit at Outfall 001 was evaluated and found to be satisfactory using the model developed for the TMDL and is included in the waste load allocation.

Dissolved Oxygen

The QUAL-TX model used for evaluating the segment is described and documented in the *Waste Load Evaluation WLE-1R for the Houston Ship Channel System* (September 2006).

Based on model results, the existing daily average effluent limits of 10 mg/L carbonaceous biochemical oxygen demand, 5-day (CBOD₅), 3 mg/L ammonia-nitrogen (NH₃-N), and 4.0 mg/L minimum dissolved oxygen (DO) for Outfall 001 are predicted to be adequate to maintain the dissolved oxygen levels above the criterion for Segment No. 1005 (4.0 mg/L). Due to the intermittent nature of discharges via Outfalls 003, 004, 005, and 006, no DO depletion is anticipated as a result of these discharges.

SUMMARY OF EFFLUENT DATA

The following is a quantitative description of the discharge described in the monthly effluent report data for the period May 2013 through May 2018. The "Avg of Daily Avg" values presented in the following table are the average of all daily average values for the reporting period for each pollutant. The "Max of Daily Max" values presented in the following table are the individual maximum values for the reporting period for each pollutant. Flows are expressed in million gallons per day (MGD). All pH values are expressed in standard units (SU). Bacteria values are expressed in colony-forming units (cfu) or most probable number (MPN) per 100 milliliters (mL).

Flow

Outfall	Frequency	Avg of Daily Avg, MGD	Max of Daily Max, MGD
001	Continuous	0.062	0.198
003	Intermittent	0.025	0.030
004	Intermittent	0.027	0.030
005	Intermittent	0.030	0.030

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Flow

Outfall	Frequency	Avg of Daily Avg, MGD	Max of Daily Max, MGD
006	Intermittent	0.036	0.300

Effluent Characteristics

Outfall	Pollutant	Avg of Daily Avg		Max of Daily Max	
		mg/L	lbs/day	mg/L	lbs/day
001	Chemical Oxygen Demand (COD)	212	108	555	340
	CBOD ₅	4.37	2.35	74.3	50.2
	Total Suspended Solids (TSS)	16.6	8.34	134	154
	Oil and Grease	2.20	1.08	30.4	12.8
	Ammonia Nitrogen	0.500	0.289	5.53	7.86
	Total Cadmium	-	-	0.004	0.0017
	Total Chromium	-	-	0.020	0.0065
	Hexavalent Chromium	0.0077	-	0.019	-
	Total Copper	-	-	0.055	0.037
	Total Lead	-	-	0.019	0.010
	Total Mercury	0.000083	0.000048	0.0002	0.00016
	Total Nickel	0.046	0.025	0.131	0.109
	Total Zinc	-	-	0.390	0.390
	Sulfide	-	-	4.00	2.69
	Benzene	-	-	0.060	-
	Naphthalene	-	-	0.0097	-
	Phenanthrene	0.00025	0.00015	0.00079	0.0014
	Total Phenols (4AAP)	-	-	0.285	-
	BTEX, Total	0.013	0.0074	0.190	0.088
	Total Petroleum Hydrocarbons (TPH)	1.49	0.786	5.02	2.88
	Polynuclear Aromatic Hydrocarbons (PAH)	0.0098	0.0051	0.010	0.012
	Total Arsenic	0.0059	-	-	-
	Cyanide (Available)	0.00459	-	-	-
	Acrylonitrile	0.0035	-	-	-
	Carbon Tetrachloride	<0.0010	-	-	-
	Chloroethane	0.0020	-	-	-
	Chloroform	0.031	-	-	-
	Chrysene	0.0021	-	-	-
	1,1-Dichloroethane	0.0010	-	-	-
	1,2-Dichloroethane	0.0010	-	-	-
	1,1-Dichloroethylene	0.0010	-	-	-
	Ethylbenzene	<0.0010	-	-	-
	Methylene Chloride	0.0011	-	-	-
	Methyl Chloride	0.0028	-	-	-
	Toluene	0.0011	-	-	-
	Vinyl Chloride	0.0010	-	-	-
	Chlorine Residual	1.00, min	-	4.10	-
	Dissolved Oxygen	4.00, min	-	-	-
	pH	6.00 SU, min		8.9 SU	
003	TSS	-	-	-	-

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Effluent Characteristics

Outfall	Pollutant	Avg of Daily Avg		Max of Daily Max	
		mg/L	lbs/day	mg/L	lbs/day
003	- Upstream	2.35	-	31.6	-
	- Outfall 003	34.0	-	81.3	-
	- Net	34.8	-	98.0	-
	Oil and Grease	-	-	8.80	-
	Total Arsenic	0.0072	-	0.033	-
	Total Copper	-	-	0.109	-
	Total Nickel	0.0035	-	0.015	-
	Total Silver	0.0011	-	0.0032	-
	Total Zinc	0.106	-	0.382	-
	pH	6.10 SU, min		8.00 SU	
004	TSS	-	-	-	-
	- Upstream	2.57	-	10.5	-
	- Outfall 004	31.02	-	49.2	-
	- Net	32.5	-	62.0	-
	Oil and Grease	-	-	13.3	-
	Total Arsenic	0.013	-	0.179	-
	Total Copper	0.022	-	0.152	-
	Total Cyanide	0.0047	-	0.016	-
	Total Nickel	0.0039	-	0.010	-
	Total Selenium	0.0084	-	0.055	-
	Total Silver	0.0010	-	0.0010	-
	Total Zinc	0.033	-	0.089	-
	pH	6.20 SU, min		8.90 SU	
005	TSS	-	-	-	-
	- Upstream	2.66	-	26.6	-
	- Outfall 005	33.9	-	99.1	-
	- Net	38.6	-	489	-
	Oil and Grease	-	-	7.50	-
	Total Copper	-	-	0.218	-
	Total Zinc	-	-	0.657	-
	pH	6.00 SU, min		8.20 SU	
006	TSS	-	-	85.4	-
	COD	-	-	149	-
	Oil and Grease	-	-	6.10	-
	pH	6.20 SU, min		8.30 SU	

Effluent limit violations documented in the monthly effluent reports are summarized in the following table.

Effluent Limitation Violations

Outfall	Pollutant (units)	Report Date	Daily Average		Daily Maximum	
			Limit	Reported	Limit	Reported
001	COD (lbs/day)	Oct-16	166.5	172	-	-
		Jun-17	-	-	245	340
		Aug-17	166.5	188	245	310
		Nov-17	-	-	245	283
	CBOD ₅ (mg/L)	Nov-16	10	19.3	20	74.3

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Effluent Limitation Violations

Outfall	Pollutant (units)	Report Date	Daily Average		Daily Maximum	
			Limit	Reported	Limit	Reported
001	CBOD ₅ (mg/L)	Nov-17	10	15.8	20	74.2
		Dec-17	10	11.0	-	-
		Feb-17	10	12.0	20	34.3
		Mar-17	-	-	20	22.2
	CBOD ₅ (lbs/day)	Nov-16	-	-	29.2	44.4
		Nov-17	-	-	29.2	50.1
	TSS (mg/L)	Aug-14	26	38.9	-	-
		Apr-17	26	32.5	58	98.0
		Dec-17	26	27.1	-	-
	TSS (lbs/day)	Apr-17	16.7	44.3	37.2	154
	Oil and Grease (lbs/day)	Jun-13	-	-	11.4	12.8
	BTEX, Total (mg/L)	Sep-16	0.1	0.190	0.1	0.190
003	TSS, Net (mg/L)	Mar-17	50	60.3	-	-
		Dec-17	50	53.0	-	-
005	TSS, Net (mg/L)	Mar-15	50	104	100	104
		May-15	50	85	100	104
		Jun-15	50	174	100	489
		Aug-15	50	108	100	108

The draft permit was not changed to address these effluent limit violations because they are intermittent in nature and not reflective of ongoing issues at the facility.

REASONABLE POTENTIAL (RP) DETERMINATION

In the past three years, the permittee has performed twenty-four chronic tests, with two demonstrations of significant toxicity (i.e., two failures) by the mysid shrimp, and two demonstrations of significant toxicity by the inland silverside.

A RP determination was performed in accordance with 40 CFR §122.44(d)(1)(ii) to determine whether the discharge will reasonably be expected to cause or contribute to an exceedance of a state water quality standard or criterion within that standard. Each test species is evaluated separately. The RP determination is based on representative data from the previous three years of chronic whole effluent toxicity (WET) testing. This determination was performed in accordance with the methodology outlined in the TCEQ letter to the EPA dated December 28, 2015 and approved by the EPA in a letter dated December 28, 2015.

The sublethal WET limitations for the inland silverside have been carried forward in the draft permit at Outfall 001.

Because of the failures by the mysid shrimp, a three-year permit will be issued in accordance with the methodology referenced above. This species is not eligible for the testing frequency reduction.

DRAFT PERMIT CONDITIONS

The draft permit authorizes the discharge of treated wastewater, which include barge wash water, third-party biotreatable wastewater, domestic wastewater, utility wastewaters (vacuum tower cooling water and boiler blowdown), steam condensate, barge ballast water, water treatment wastes, fresh

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water filter backwash, and contaminated stormwater runoff at a daily average flow not to exceed 0.200 MGD; dry dock runoff and stormwater runoff on an intermittent and flow-variable basis via Outfalls 003, 004, and 005; and barge ballast water on an intermittent and flow-variable basis via Outfall 006.

Effluent limitations established in the draft permit are presented in Appendix D.

Technology-Based Effluent Limitations

Regulations in Title 40 of the Code of Federal Regulations (40 CFR) require that technology-based limitations be placed in wastewater discharge permits based on effluent limitations guidelines (ELGs), where applicable, or on best professional judgment (BPJ) in the absence of guidelines.

Outfall 001

Development of technology-based effluent limitations for Outfall 001 is presented in Appendix A.

The existing concentration limits for TSS, oil and grease, total cadmium, total chromium, total lead, and chlorine residual are still protective and have been carried forward in the draft permit at Outfall 001 based on EPA's antibacksliding regulations at 40 CFR § 122.44(l). The mass limits for TSS, oil and grease, total cadmium, total chromium, and total lead have been recalculated based on 40 CFR § 442.11 (BPT), 40 CFR § 442.31 (BPT), and 30 TAC Chapter 309 and on the proposed flow from the current application. These recalculated limits are less stringent than the existing limits and have been placed in the draft permit at Outfall 001 because the amendment request to authorize an increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility process, an allowable exception under EPA's antibacksliding regulations at 40 CFR § 122.44(l)(2)(i)(A).

The daily maximum mass limit for total nickel has been recalculated based on the proposed increase in the daily average flow and the recalculated technology-based limit. The recalculated technology-based daily maximum mass limit for total nickel is more stringent than the recalculated water quality-based limit but less stringent than the existing limit. The recalculated technology-based daily maximum mass limit for total nickel has been placed in the draft permit, which is consistent with EPA's antibacksliding regulations because the amendment request to authorize an increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility, an allowable exception under 40 CFR § 122.44(l)(2)(i)(A).

The existing limits for pH were originally based upon 40 CFR § 442.11 (BPT) and 40 CFR § 442.31 (BPT). These limits are still protective and have been carried forward in the draft permit at Outfall 001.

The existing concentration limits for total BTEX, TPH, and PAH and monitoring and reporting requirements for sulfide and hexavalent chromium are still protective and have been carried forward in the draft permit at Outfall 001 based on EPA's antibacksliding regulations at 40 CFR § 122.44(l). The mass limits for total BTEX, TPH, and PAH have been recalculated based on the requirements of TXG83000 (TCEQ, 2013) and the proposed flow from the current application. These recalculated limits are less stringent than the existing limits and have been placed in the draft permit at Outfall 001 because the amendment request to authorize an increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility process, an allowable exception under EPA's antibacksliding regulations at 40 CFR § 122.44(l)(2)(i)(A).

The mass limits for chemical oxygen were recalculated based on the proposed increase in the daily average flow and the existing technology-based limits. The recalculated mass limits for chemical oxygen demand are less stringent than the existing limits and have been placed in the draft permit, consistent with EPA's antibacksliding regulations because the amendment request to authorize an

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increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility process, an allowable exception under 40 CFR § 122.44(l)(2)(i)(A).

The existing limits for benzene, naphthalene, and total phenols are still protective and have been carried forward in the draft permit at Outfall 001 based on EPA's antibacksliding regulations at 40 CFR § 122.44(l).

The major amendment request to authorize an increase of the daily average and maximum limits for total mercury at Outfall 001 was granted. The limits for total mercury were recalculated in the previous permit action utilizing incorrect criteria and made more stringent based on the results of the water quality screening. The recalculated technology-based daily maximum limits for total mercury are more stringent than the recalculated water quality-based limits (see Appendix B), using the correct criteria, but are less stringent than the existing limits. The recalculated technology-based daily maximum limits for total mercury have been placed in the draft permit. The less stringent recalculated limits are consistent with EPA's antibacksliding regulations because utilizing the incorrect criteria to calculate the limits for total mercury in the previously issued permit was a technical mistake, which is an allowable exception under 40 CFR § 122.44(l)(2)(i)(B)(2).

The facility is no longer discharging groundwater remediation project wastewater, and the authorization to discharge this waste stream via Outfall 001 has been removed from the draft permit. The associated limits, which include total arsenic, cyanide (available), acrylonitrile, carbon tetrachloride, chloroethane, chloroform, chrysene, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, ethylbenzene, methylene chloride, methyl chloride, toluene, and vinyl chloride, have been removed from the draft permit at Outfall 001. The removal of these limits at Outfall 001 is consistent with EPA's antibacksliding regulations because removal of the authorization to discharge groundwater remediation project wastewater represents a substantial alteration to the permitted facility, which is an allowable exception at 40 CFR § 122.44(l)(2)(i)(A).

The water quality-based daily maximum limits for total copper, water quality-based daily average limits (concentration and mass) and daily maximum concentration limit for total nickel, and the water quality-based daily average limits total mercury are more stringent than the recalculated technology-based limitations, and have been placed in the draft permit instead.

Outfalls 003, 004, and 005

Dry dock runoff and stormwater runoff discharged via Outfalls 003, 004, and 005 are not subject to any ELGs, and the limits for TSS (upstream, downstream, and net), oil and grease, and pH were originally based upon BPJ. These limits are still protective and have been carried forward in the draft permit at Outfalls 003, 004, and 005 based on EPA's antibacksliding regulations at 40 CFR § 122.44(l).

Outfall 006

Barge ballast water discharged via Outfall 006 is not subject to any ELGs, and the existing limits for TSS, chemical oxygen demand, oil and grease, and pH were originally based upon BPJ. These limits are still protective and have been carried forward in the draft permit at Outfall 006 based on EPA's antibacksliding regulations at 40 CFR § 122.44(l).

Water Quality-Based Effluent Limitations

Calculations of water quality-based effluent limitations for the protection of aquatic life and human health are presented in Appendix B. Aquatic life criteria established in Table 1 and human health criteria established in Table 2 of 30 TAC Chapter 307 are incorporated into the calculations, as are recommendations in the Water Quality Assessment Team's memorandum date May 11, 2018. TCEQ practice for determining significant potential is to compare the reported analytical data from the

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facility against percentages of the calculated daily average water quality-based effluent limitation. Permit limitations are required when analytical data reported in the application exceeds 85 percent of the calculated daily average water quality-based effluent limitation. Monitoring and reporting is required when analytical data reported in the application exceeds 70 percent of the calculated daily average water quality-based effluent limitation.

Outfall 001

The chronic aquatic life and human health mixing zones for Outfall 001 overlap with the zone of initial dilution (ZID) for Outfall 006. For this reason, a flow-weighted combined effluent analysis for Outfalls 001 and 006 will be completed when the applicant submits analytical data for Outfall 006, as required by Other Requirement No. 11 in the draft permit.

The existing limits for total copper, total mercury, total nickel, total zinc, and phenanthrene and the monitoring and reporting requirement for total zinc were originally based upon previous water quality screenings.

The existing limit and monitoring requirement for total zinc are still protective and have been carried forward in the draft permit.

The major amendment request to authorize an increase of the daily average and maximum limits for total mercury at Outfall 001 was granted. The limits for total mercury were recalculated in the previous permit action utilizing incorrect criteria and made more stringent based on the results of the water quality screening. The recalculated water quality-based daily average limits for total mercury (see Appendix B), using the correct criteria, are less stringent than the existing daily average limits and have been placed in the draft permit. The less stringent water quality-based daily average limits for total mercury are consistent with EPA's antibacksliding regulations because utilizing the incorrect criteria to calculate the limits for total mercury in the previously issued permit was a technical mistake, which is an allowable exception under 40 CFR § 122.44(l)(2)(i)(B)(2).

The existing daily maximum concentration limit for total nickel is slightly more stringent than the recalculated daily maximum concentration limit and has been carried forward in the draft permit. However, the recalculated daily average concentration limit for total nickel is slightly more stringent than the existing limit and has been placed in the draft permit for the protection of aquatic life with no compliance period. The daily average mass limit for total nickel has been recalculated based on the proposed increase in the daily average flow. The recalculated daily average mass limit for total nickel is less stringent and has been placed in the draft permit, which is consistent with EPA's antibacksliding regulations because the amendment request to authorize an increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility, which is an allowable exception under 40 CFR § 122.44(l)(2)(i)(A).

The existing concentration limits for total copper and phenanthrene are still protective and have been carried forward in the draft permit. However, the mass limits for total copper and phenanthrene have been recalculated based on the proposed increase in the daily average flow. The recalculated limits for total copper and phenanthrene are less stringent and have been placed in the draft permit, which is consistent with EPA's antibacksliding regulations because the amendment request to authorize an increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility, which is an allowable exception under 40 CFR § 122.44(l)(2)(i)(A).

The existing concentration limits for CBOD₅, NH₃-N, and DO were originally based upon previous recommendations from the Water Quality Assessment Section. These limits are still protective, and the concentration limits have been carried forward in the draft permit. However, the mass limits CBOD₅ and NH₃-N have been recalculated based on the proposed increase in the daily average flow.

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These recalculated limits for CBOD₅ and NH₃-N are less stringent and have been placed in the draft permit, which is consistent with EPA's antibacksliding regulations because the amendment request to authorize an increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility process, which is an allowable exception under 40 CFR § 122.44(l)(2)(i)(A).

Limits for Enterococci have been added to the draft permit based on the presence of domestic wastewater in the discharge, analytical data submitted with the application which demonstrated elevated levels of Enterococci in the discharge, and the requirements of 30 TAC Chapter 307, with a one-year compliance period.

Effluent data for cyanide (free) submitted with the application exceeded 85% of the calculated water quality-based effluent limitation; however, the average of the self-reported averages for this parameter indicated the levels of cyanide (free) were below 70% of the calculated water quality-based effluent limitation. Therefore, daily average and daily maximum monitoring and reporting requirements for cyanide (free) have been added to the draft permit in order to gather sufficient data to determine if a limitation is required.

Outfall 003

The existing limits for total arsenic, total nickel, and total silver and monitoring and reporting requirements for total copper (daily maximum) and total zinc (daily average and daily maximum) were based upon previous water quality screenings. The limitations for total arsenic, total nickel, and total silver and monitoring requirements for total zinc are still protective and have been carried forward in the draft permit. A monitoring and reporting requirement for daily average total copper has been added to provide better information for evaluating this parameter in future permit actions.

No analytical data was submitted with the application because the outfall discharges intermittently. Other Requirement No. 11 has been included in the draft permit, requiring sampling and analysis upon commencement of discharge via Outfall 003.

Outfall 004

The zones of initial dilution (ZIDs) for Outfalls 004 and 005 overlap. The water quality screening was conducted based on the combined discharge (flow and quality) from both outfalls.

The existing limits for total arsenic, total nickel, total silver, and total zinc and monitoring and reporting requirements for total copper and total selenium were based upon previous water quality screenings. These limits and monitoring requirements are still protective and have been carried forward in the draft permit.

The existing limits for total cyanide have been replaced with water-quality based limits for free cyanide. Limits for free cyanide are more stringent because total cyanide includes free cyanide, and the existing limits for total cyanide were based upon a previous water-quality screening for free cyanide. New Other Requirement No. 10 has been added regarding the required test method for demonstrating compliance with limits for free cyanide.

No analytical data was submitted with the application because the outfall discharges intermittently. Other Requirement No. 11 has been included in the draft permit, requiring sampling and analysis upon commencement of discharge via Outfall 004.

Outfall 005

The ZIDs for Outfalls 004 and 005 overlap. The water quality screening was conducted based on the combined discharge (flow and quality) from both outfalls.

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The existing monitoring and reporting requirements for daily maximum total copper and daily maximum total zinc were based upon previous water quality screenings and are still protective. Monitoring and reporting requirements for daily average total copper and daily average total zinc have been added to provide better information for evaluating these parameters in future permit actions.

No analytical data was submitted with the application because the outfall discharges intermittently. Other Requirement No. 11 has been included in the draft permit, requiring sampling and analysis upon commencement of discharge via Outfall 005.

Outfall 006

No analytical data was submitted with the application because the outfall discharges intermittently. Other Requirement No. 11 has been included in the draft permit, requiring sampling and analysis upon commencement of discharge via Outfall 006.

Total Dissolved Solids (TDS), Chloride, and Sulfate Screening

Segment No. 1005, which receives the discharges from this facility, does not have criteria established for TDS, chloride, or sulfate in 30 TAC Chapter 307; therefore, no screening was performed for TDS, chloride, or sulfate in the effluent.

pH Screening

The existing permit includes limits on pH of 6.0 – 9.0 SU at Outfalls 001, 003, 004, 005, and 006, which discharge directly into Houston Ship Channel/San Jacinto River Tidal, Segment No. 1005. Screening was performed for Outfall 001 to ensure that these existing pH limits would not cause a violation of the pH criteria in the Houston Ship Channel/San Jacinto River Tidal of 6.5 – 9.0 SU (see Appendix C). The existing effluent limits of 6.0 – 9.0 SU are adequate to ensure that the discharge will not violate the pH criteria in the Houston Ship Channel/San Jacinto River Tidal. Discharges via Outfalls 003, 004, 005, and 006 are intermittent and are not expected to exert significant effects on pH in the receiving water. The existing limits are still protective and have been carried forward in the draft permit at Outfalls 001, 003, 004, 005, and 006.

Whole Effluent Toxicity Testing (Biomonitoring)

Biomonitoring requirements are included in the draft permit at Outfall 001.

The draft permit includes saltwater chronic and 24-hour acute testing requirements. For both tests, the draft permit requires the mysid shrimp (*Mysidopsis bahia*) and the inland silverside (*Menidia beryllina*) as test species. The testing frequency for saltwater chronic testing is once per quarter, and the testing frequency for 24-hour acute testing is once per six months. For saltwater chronic testing, the draft permit requires a dilution series of 3%, 5%, 6%, 8%, and 11%, with a critical dilution of 8%. The critical dilution is in accordance with the aquatic life criteria discussion in the "Water Quality-Based Effluent Limitations" section of this technical summary.

SUMMARY OF CHANGES FROM APPLICATION

The following changes have been made from the application, which make the draft permit more stringent.

1. The recalculated daily average concentration limitation for total nickel at Outfall 001 is slightly more stringent than the existing limitation and has been placed in the draft permit for the protection of aquatic life, with no compliance period.

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2. Limitations for Enterococci have been added to the draft permit at Outfall 001 based on the presence of domestic wastewater in the discharge, analytical data provided with the application, and the requirements of 30 TAC Chapter 307, with a one-year compliance period.
3. Daily average and daily maximum monitoring and reporting requirements for cyanide (free) have been added to the draft permit at Outfall 001 based on the water-quality screening for the protection of aquatic life, in order to gather sufficient data to determine if a limitation is required.
4. A daily average monitoring and reporting requirement for total copper has been added in the draft permit at Outfall 003 to provide better information for evaluating this parameter in future permit actions.
5. Monitoring and reporting requirements for daily average total copper and daily average total zinc have been added to the draft permit at Outfall 005 to provide better information for evaluating these parameters in future permit actions.

SUMMARY OF CHANGES FROM EXISTING PERMIT

The permittee requested the following changes in their amendment request that the executive director has recommended granting.

1. Amendment to authorize an increase in the daily average flow to 0.200 MGD at Outfall 001. This increase in flow resulted in the following additional changes:
 - a. The mass limitations for TSS, oil and grease, total cadmium, total chromium, and total lead have been recalculated based on 40 CFR § 442.11 (BPT), 40 CFR § 442.31 (BPT), and 30 TAC Chapter 309 and on the proposed flow from the current application. These recalculated limitations are less stringent than the existing limitations and have been placed in the draft permit at Outfall 001 because the amendment request to authorize an increase in the daily average flow to 0.200 MGD at Outfall 001 represents a substantial alteration to the permitted facility, which is an allowable exception under EPA's antibacksliding regulations at 40 CFR § 122.44(l)(2)(i)(A).
 - b. The mass limitations for total BTEX, TPH, and PAH have been recalculated based the requirements of TPDES General Permit No. TXG830000 (TCEQ, 2013) and 40 CFR Part 419 applied as BPJ using the proposed flow from the current application. These recalculated limitations are less stringent than the existing limitations and have been placed in the draft permit at Outfall 001 because the amendment request to authorize an increase in the daily average flow to 0.200 MGD at Outfall 001 represents a substantial alteration to the permitted facility, which is an allowable exception under EPA's antibacksliding regulations at 40 CFR § 122.44(l)(2)(i)(A).
 - c. The daily maximum mass limit for total nickel has been recalculated based on the proposed increase in the daily average flow and the recalculated technology-based limit. The recalculated daily maximum mass limit for total nickel is more stringent than the recalculated water quality-based limit but less stringent than the existing limit. The recalculated daily maximum mass limit for total nickel has been placed in the draft permit, consistent with EPA's antibacksliding regulations because the amendment request to authorize an increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility process, an allowable exception under 40 CFR § 122.44(l)(2)(i)(A).
 - d. The mass limits for chemical oxygen were recalculated based on the proposed increase in the daily average flow and the existing technology-based limits. The recalculated mass

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limits for chemical oxygen demand are less stringent than the existing limits and have been placed in the draft permit, consistent with EPA's antibacksliding regulations because the amendment request to authorize an increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility process, an allowable exception under 40 CFR § 122.44(l)(2)(i)(A).

- e. The daily average and maximum mass limitations for total copper and phenanthrene and the daily average mass limits for total nickel at Outfall 001 have been recalculated based on the requirements of 30 TAC Chapter 307 and on the proposed increase in the daily average flow. These recalculated limitations are less stringent than the existing limitations and have been placed in the draft permit at Outfall 001 because the amendment request to authorize an increase in the daily average flow to 0.200 MGD at Outfall 001 represents a substantial alteration to the permitted facility process, an allowable exception under EPA's antibacksliding regulations at 40 CFR § 122.44(l)(2)(i)(A).
 - f. The mass limitations for CBOD₅ and NH₃-N have been recalculated based on current recommendations from the Water Quality Assessment Section and the proposed increase in the daily average flow. These recalculated limitations are less stringent and have been placed in the draft permit at Outfall 001 because the amendment request to authorize an increase in the daily average flow to 0.200 MGD at Outfall 001 represents a substantial alteration to the permitted facility process, an allowable exception under EPA's antibacksliding regulations at 40 CFR § 122.44(l)(2)(i)(A).
2. Major amendment request to correct the daily average and maximum effluent limitations for total mercury at Outfall 001. The effluent limitations for total mercury were recalculated in the previous permit action utilizing incorrect criteria and made more stringent based on the results of that water quality screening. The recalculated limits for total mercury (see Appendix B), using the correct criteria, are less stringent than the existing limits and have been placed in the draft permit at Outfall 001. The less stringent recalculated limits are consistent with EPA's antibacksliding regulations because utilizing the incorrect criteria to calculate the effluent limitations for total mercury in the previously issued permit was a technical mistake, which is an allowable exception under 40 CFR § 122.44(l)(2)(i)(B)(2).
 3. Amendment request to authorize removal of the authorization to discharge groundwater remediation project wastewater via Outfall 001.
 4. Amendment request to authorize removal of the limitations associated with the discharge of groundwater remediation project wastewater, which include total arsenic, cyanide (available), acrylonitrile, carbon tetrachloride, chloroethane, chloroform, chrysene, 1,1-dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, ethylbenzene, methylene chloride, methyl chloride, toluene, and vinyl chloride. These limitations have been removed from the draft permit at Outfall 001. The removal of the limitations at Outfall 001 is consistent with EPA's antibacksliding regulations because removal of the authorization to discharge groundwater remediation project wastewater represents a substantial alteration to the permitted facility, which is an allowable exception at 40 CFR § 122.44(l)(2)(i)(A).
 5. Amendment request to correct the cyanide limitations at Outfall 004 by replacing the existing limitations for total cyanide with water quality-based limitations for free cyanide. Limitations for free cyanide are more stringent because total cyanide includes free cyanide, and the existing limitations for total cyanide were based upon a previous water quality screening for free cyanide.

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The following additional changes have been made to the draft permit.

1. The discharge route on Page 1 has been updated based on information provided in the current standards memo. The update clarifies that the facility's discharges are directly to the Houston Ship Channel/ San Jacinto River Tidal and does not represent a change in the physical discharge locations.
2. The term *reverse osmosis wastewater* has been changed to *water treatment wastes* at Outfall 001 for consistency with TCEQ practice for discharges resulting from water treatment processes.
3. Existing footnotes 2 and 5 at Outfall 001 have been removed because they are no longer applicable. Subsequent footnotes have been renumbered and reordered.
4. New footnote 2 at Outfall 001 has been added to clarify the term *water treatment wastes*.
5. New footnote 3 at Outfall 001 has been added specifying that compliance will be determined using the analytical method for available cyanide.
6. New footnote 4 at Outfall 001 has been added regarding the units for bacteria limitations.
7. New footnote 7 has been added regarding the limits for total BTEX.
8. The compliance period for whole effluent toxicity (WET) limits at Outfall 001 has been removed because the WET limits are effective.
9. The Sublethal WET limit parameter ID number at Outfall 001 has been updated.
10. The definition of significant sublethality has been updated at Outfall 001.
11. Existing footnotes 4 and 5 at Outfalls 003 and 004 have been removed because they are no longer applicable.
12. New footnote 4 at Outfall 004 has been added specifying that compliance will be determined using the analytical method for available cyanide.
13. The Definition and Standard Permit Conditions section of the permit (boilerplate) has been updated to the current version (01/2016).
14. Other Requirement No. 2 has been updated to remove the parameters associated with the discharge of groundwater remediation project wastewater because the authorization to discharge this waste stream has been removed.
15. Other Requirement No. 3 has been updated based on the current critical conditions memo.
16. Other Requirement No. 4 has been updated based on information provided with the current application.
17. Other Requirement No. 6 has been updated to remove contaminated groundwater because the authorization to discharge groundwater remediation project wastewater has been removed.
18. Other Requirement No. 9 has been removed because the authorization to discharge groundwater remediation project wastewater has been removed. Subsequent other requirements have been renumbered.
19. Other Requirement No. 10 has been removed because it is no longer applicable. Subsequent other requirements have been renumbered.
20. New Other Requirement No. 10 has been added specifying possible test methods for available cyanide.

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21. New Other Requirement No. 11 has been added regarding analytical testing for Outfalls 003, 004, 005, and 006. Attachment A, Tables 1, 2, and 3, has also been added for the purposes of analytical testing.
22. New Other Requirement No. 12 has been added to clarify the term *water treatment wastes*.
23. Whole effluent toxicity testing requirements have been updated to reflect current TCEQ policies and practices.

BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application received on January 5, 2018, and additional information received on March 14, 2018, April 9, 2018, July 1, 2018, July 2, 2018, and July 26, 2018.
2. Existing permits: TPDES Permit No. WQ0002605000 issued on March 18, 2014.
3. Waste Load Evaluation for Segment No. 1005.
4. TCEQ Rules.
5. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective March 6, 2014, as approved by EPA Region 6.
6. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective July 22, 2010, as approved by EPA Region 6, for portions of the 2014 standards not approved by EPA Region 6.
7. *Texas Surface Water Quality Standards* – 30 TAC §§307.1-307.10, effective August 17, 2000, and Appendix E, effective February 27, 2002, for portions of the 2010 standards not approved by EPA Region 6.
8. *Procedures to Implement the Texas Surface Water Quality Standards* (IPs), Texas Commission on Environmental Quality, June 2010, as approved by EPA Region 6.
9. *Procedures to Implement the Texas Surface Water Quality Standards*, Texas Commission on Environmental Quality, January 2003, for portions of the 2010 IPs not approved by EPA Region 6.
10. Memos from the Standards Implementation Team and Water Quality Assessment Team of the Water Quality Assessment Section of the TCEQ.
11. *Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits*, TCEQ Document No. 98-001.000-OWR-WQ, May 1998.
12. EPA Effluent Guidelines: 40 CFR Part 442, Subparts A & C (BPT). A new source determination was performed and the discharge of transportation equipment cleaning wastewater and contaminated stormwater is not a new source as defined at 40 CFR § 122.2.
13. Consistency with the Coastal Management Plan: The Executive Director has reviewed this action for consistency with the goals and policies of the Texas Coastal Management Program (CMP) in accordance with the regulations of the General Land Office and has determined that the action is consistent with the applicable CMP goals and policies.
14. Letter dated May 28, 2014, from L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for pH evaluation procedures).

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15. Letter dated June 2, 2014, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for pH evaluation procedures).
16. Letter dated December 28, 2015, from L'Oreal Stepney, P.E., Deputy Director, Office of Water, TCEQ, to Bill Honker, Director, Water Quality Protection Division, EPA (TCEQ proposed development strategy for procedures to determine reasonable potential for whole effluent toxicity limitations).
17. Letter dated December 28, 2015, from William K. Honker, P.E., Director, Water Quality Protection Division, EPA, to L'Oreal W. Stepney, P.E., Deputy Director, Office of Water, TCEQ (Approval of TCEQ proposed development strategy for procedures to determine reasonable potential for whole effluent toxicity limitations).
18. *Fourteen Total Maximum Daily Loads for Nickel in the Houston Ship Channel System* (TMDL Project No. 1).
19. *Implementation Plan for Dissolved Nickel in the Houston Ship Channel* (TMDL Implementation Plan), TCEQ, July 2001.
20. *General Permit for Discharges Resulting from Implementing Corrective Action Plans for Cleanup of Petroleum Underground Storage Tank (UST) Systems in Texas*, TXG830000, EPA, 1996.
21. *General Permit for Petroleum Fuel or Petroleum Substances*, TPDES No. TXG830000, TCEQ, 2013.

PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the chief clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the chief clerk instructs the applicant to place a copy of the application in a public place for reviewing and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The chief clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent to the chief clerk, along with the executive director's preliminary decision contained in the technical summary or fact sheet. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant must place a copy of the executive director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested case hearing.

After the public comment deadline, the executive director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The chief clerk then mails the executive director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the executive director's response and decision, they can

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request a contested case hearing or file a request to reconsider the executive director's decision within 30 days after the notice is mailed.

The executive director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the executive director's response to comments and final decision is mailed. If a hearing request or request for reconsideration is filed, the executive director will not issue the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the executive director calls a public meeting or the Commission grants a contested case hearing as described above, the Commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the Commission will consider all public comments in making its decision and shall either adopt the executive director's response to public comments or prepare its own response.

For additional information about this application, contact Shannon Gibson at (512) 239-4284.

Shannon Gibson
Shannon Gibson

July 31, 2018
Date

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Appendix A
Calculated Technology-Based Effluent Limits

The discharges of transportation equipment cleaning (TEC) process wastewaters and TEC-contaminated stormwater via Outfall 001 are subject to 40 CFR Part 442 - Transportation Equipment Cleaning Point Source Category, Subparts A – Tank Truck and Intermodal Tank Container Transporting Chemical and Petroleum Cargos and C - Tank Barges and Ocean/Sea Tankers Transporting Chemical and Petroleum Cargos.

A new source determination was performed and the discharge of TEC process wastewaters and contaminated stormwater via Outfall 001 is not a new source as defined at 40 CFR § 122.2, and New Source Performance Standards are not required for this discharge via Outfall 001.

TEC process wastewater, as defined at 40 CFR 442.2, means all wastewaters associated with cleaning the interiors of tanks including: tank trucks; rail tank cars; intermodal tank containers; tank barges; and ocean/sea tankers used to transport commodities or cargoes that come into direct contact with the interior of the tank or container. At those facilities that clean tank interiors, TEC process wastewater also includes wastewater generated from washing vehicle exteriors, equipment and floor washings, TEC-contaminated stormwater, wastewater pre-rinse cleaning solutions, chemical cleaning solutions, and final rinse solutions. TEC process wastewater is defined to include only wastewater generated from a regulated TEC subcategory. Wastewater generated from cleaning tank interiors for purposes of shipping products (i.e., cleaned for purposes other than maintenance and repair) is considered TEC process wastewater. Wastewater generated from cleaning tank interiors for the purposes of maintenance and repair on the tank is not considered TEC process wastewater. Facilities that clean tank interiors solely for the purposes of repair and maintenance are not regulated under this Part. Allocations for contaminated stormwater were originally based upon 40 CFR Part 442 as BPJ.

The discharge of treated domestic wastewater via Outfall 001 is not subject to federal effluent limitation guidelines, and flow allocations and technology-based effluent limitations for this wastestream were originally based upon at 30 TAC Chapter 309.

The facility proposes a major amendment to authorize an increase in the daily average flow to 0.200 MGD at Outfall 001. Limitations have been recalculated based on the proposed flow of 0.200 MGD. Allocations have been calculated for each contributing wastestream with applicable effluent limitation guidelines (ELGs), which total 68% of the discharge via Outfall 001. The more stringent ELGs for TEC wastewater, Subpart C were used to determine allocations for contaminated stormwater, consistent with previous permit actions.

Flow Allocations

Example: Flow (MGD) × Flow Fraction = Flow Allocation (MGD)

Wastestream	Flow Fraction	Flow	Flow Allocation
TEC wastewater, Subpart A	= 0.10	× 0.2 MGD	= 0.02 MGD
TEC wastewater, Subpart C	= 0.43	× 0.2 MGD	= 0.086 MGD
Contaminated stormwater	= 0.10	× 0.2 MGD	= 0.02 MGD
Domestic wastewater	= 0.05	× 0.2 MGD	= 0.01 MGD
	0.68		0.136 MGD

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Limitations calculations

Example: ELG (mg/L) × Flow Allocation (MGD) × 8.345 = Mass Limitation (lbs/day)

TEC wastewater, Subpart A – 40 CFR §§ 442.11 (BPT), 442.12 (BCT), and 442.13 (BAT)						
	ELG Daily Avg, mg/L	ELG Daily Max, mg/L	Conversion Factor	Flow allocation, MGD	Daily Avg, lbs/day	Daily Max lbs/day
BOD ₅	22	61	8.345	0.02	3.67	10.1
TSS	26	58	8.345	0.02	4.33	9.68
Oil and Grease	16	36	8.345	0.02	2.67	6.00
Copper	-	0.84	8.345	0.02	-	0.140
Mercury	-	0.0031	8.345	0.02	-	0.00051
pH	6.0 SU, min to 9.0 SU					

TEC wastewater, Subpart C – 40 CFR §§ 442.31 (BPT), 442.32 (BCT), and 442.33 (BAT)						
	ELG Daily Avg, mg/L	ELG Daily Max, mg/L	Conversion Factor	Flow allocation, MGD	Daily Avg, lbs/day	Daily Max lbs/day
BOD ₅	22	61	8.345	0.086	15.7	43.7
TSS	26	58	8.345	0.086	18.6	41.6
Oil and Grease	16	36	8.345	0.086	11.4	25.8
Cadmium	-	0.02	8.345	0.086		0.014
Chromium	-	0.42	8.345	0.086		0.301
Copper	-	0.10	8.345	0.086		0.071
Lead	-	0.14	8.345	0.086		0.100
Mercury	-	0.0013	8.345	0.086		0.00093
Nickel	-	0.58	8.345	0.086		0.416
Zinc	-	8.3	8.345	0.086		5.95
pH	6.0 SU, min to 9.0 SU					

Contaminated Stormwater– 40 CFR §§ 442.31 (BPT), 442.32 (BCT), and 442.33 (BAT)						
	ELG Daily Avg, mg/L	ELG Daily Max, mg/L	Conversion Factor	Flow allocation, MGD	Daily Avg, lbs/day	Daily Max lbs/day
BOD ₅	22	61	8.345	0.02	3.67	10.1
TSS	26	58	8.345	0.02	4.33	9.68
Oil and Grease	16	36	8.345	0.02	2.67	6.00
Cadmium	-	0.02	8.345	0.02	-	0.0033
Chromium	-	0.42	8.345	0.02	-	0.070
Copper	-	0.10	8.345	0.02	-	0.016
Lead	-	0.14	8.345	0.02	-	0.023
Mercury	-	0.0013	8.345	0.02	-	0.00021
Nickel	-	0.58	8.345	0.02	-	0.096
Zinc	-	8.3	8.345	0.02	-	1.38
pH	6.0 SU, min to 9.0 SU					

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Domestic Wastewater – 30 TAC Chapter 309 and BPJ						
	ELG Daily Avg, mg/L	ELG Daily Max, mg/L	Conversion Factor	Flow allocation, MGD	Daily Avg, lbs/day	Daily Max lbs/day
BOD ₅	20	45	8.345	0.01	1.66	3.75
TSS	20	45	8.345	0.01	1.66	3.75
Oil and Grease	15	20	8.345	0.01	1.25	1.66
Chlorine Residual	1.0, min	4.0	—	—	—	—
pH	6.0 SU, min to 9.0 SU					

Summation and explanation

Summation				
	ELG Daily Avg, mg/L	ELG Daily Max, mg/L	Daily Avg, lbs/day	Daily Max lbs/day
BOD ₅	22	61	24.8	67.8
TSS	26	58	29.0	64.7
Oil and Grease	16	36	18.0	39.5
Cadmium	-	0.02	-	0.017
Chromium	-	0.42	-	0.371
Copper	-	0.10	-	0.228
Lead	-	0.14	-	0.123
Mercury	-	0.0013	-	0.0016
Nickel	-	0.58	-	0.513
Zinc	-	8.3	-	7.34
pH	6.0 SU, min to 9.0 SU			

The existing concentration limitations for TSS, oil and grease, total cadmium, total chromium, total lead, and chlorine residual are still protective and have been carried forward in the draft permit at Outfall 001 based on the requirements of 40 CFR § 442.11 (BPT), 40 CFR § 422.31 (BPT), and 30 TAC Chapter 309 and EPA's antibacksliding regulations at 40 CFR § 122.44(l). The mass limitations for TSS, oil and grease, total cadmium, total chromium, and total lead have been recalculated based on the above specified requirements and on the proposed flow from the current application. These recalculated limitations are less stringent than the existing limitations and have been placed in the draft permit at Outfall 001, because the amendment request to authorize an increase in the daily average flow to 0.200 MGD at Outfall 001 represents a substantial alteration to the permitted facility process, an allowable exception under EPA's antibacksliding regulations at 40 CFR § 122.44(l)(2)(i)(A).

The major amendment request to authorize an increase of the daily average and maximum limits for total mercury at Outfall 001 was granted. The limits for total mercury were recalculated in the previous permit action utilizing incorrect criteria and made more stringent based on the results of the water quality screening. The recalculated daily maximum technology-based limits for total mercury are more stringent than the recalculated water quality-based limit (see Appendix B), using the correct criteria, but are less stringent than the existing limits. The recalculated daily maximum technology-based limits for total mercury have been placed in the draft permit. The less stringent recalculated limits are consistent with EPA's antibacksliding regulations because utilizing the incorrect criteria to calculate the limits for total mercury in the previously issued permit was a technical mistake, which is an allowable exception under 40 CFR § 122.44(l)(2)(i)(B)(2).

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The daily average and maximum concentration limits for total nickel were recalculated based upon 40 CFR §§ 442.31 (BPT), 442.32 (BCT), and 442.33 (BAT). The mass limits for total nickel were recalculated based on the proposed increase in the daily average flow and the recalculated technology-based limits. The recalculated daily maximum mass limit for total nickel is more stringent than the recalculated water quality-based limit but less stringent than the existing limit. The recalculated daily maximum mass limit for total nickel has been placed in the draft permit, consistent with EPA's antibacksliding regulations because the amendment request to authorize an increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility process, an allowable exception under 40 CFR § 122.44(l)(2)(i)(A).

The water quality-based limits for total copper, water quality-based daily average limits (concentration and mass) and daily maximum concentration limit for total nickel, and the water quality-based daily average limits total mercury are more stringent than the above recalculated technology-based limitations, and have been placed in the draft permit instead.

The existing limits for pH were originally based upon 40 CFR § 442.11 (BPT) and 40 CFR § 422.31 (BPT). These limits are still protective and have been carried forward in the draft permit at Outfall 001.

Biotreatable wastes and off-site third party wastes

The discharge of third party biotreatable waste via Outfall 001 is not subject to 40 CFR Part 437 based on 40 CFR § 437.1(b)(2)(b), which states if off-site wastes are of similar nature and the treatment of such wastes are compatible with the treatment of non-Centralized Waste Treatment (CWT) wastes generated and treated at the CWT, the CWT regulations do not apply.

The existing limits for total BTEX, total petroleum hydrocarbons (TPH) and polynuclear aromatic hydrocarbons (PAH) were originally based upon TCEQ's General Permit for Petroleum Contaminated Water (TXG830000) as BPJ for the discharge of biotreatable wastes and off-site third party wastes. The monitoring and reporting requirements for sulfide and hexavalent chromium were originally based upon 40 CFR Part 419, also as BPJ for the discharge of biotreatable wastes and off-site third party wastes. The existing concentration limitations for total BTEX, TPH, and PAH and monitoring requirements for sulfide and hexavalent chromium are still protective and have been carried forward in the draft permit at Outfall 001 based on EPA's antibacksliding regulations at 40 CFR § 122.44(l). The mass limitations have been recalculated based on the proposed flow from the current application. These recalculated limitations are less stringent than the existing limitations and have been placed in the draft permit at Outfall 001, because the amendment request to authorize an increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility process, an allowable exception under EPA's antibacksliding regulations at 40 CFR § 122.44(l)(2)(i)(A).

Groundwater remediation project wastewater

The discharge of wastewater from the groundwater remediation project is not subject to any ELGs; limitations and allocations were originally based upon the *General Permit for Discharges Resulting from Implementing Corrective Action Plans for Cleanup of Petroleum Underground Storage Tank (UST) Systems in Texas* (TXG830000, EPA, 1996) and 30 TAC Chapter 319 – General Regulations Incorporated into Permits, Subchapter B – Hazardous Metals, as BPJ. However, groundwater remediation project wastewater is not currently being pumped due to the progress of the facility remediation program. The facility has submitted an amendment request to remove the authorization to discharge this wastestream via Outfall 001 and to remove the associated limitations. The authorization to discharge groundwater remediation project wastewater via Outfall 001 has been removed from the draft permit. The associated limitations, which include total arsenic, cyanide (available), acrylonitrile, carbon tetrachloride, chloroethane, chloroform, chrysene, 1,1-

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dichloroethane, 1,2-dichloroethane, 1,1-dichloroethylene, ethylbenzene, methylene chloride, methyl chloride, toluene, and vinyl chloride, have been removed from the draft permit at Outfall 001. The removal of the limitations at Outfall 001 is consistent with EPA's antibacksliding regulations because removal of the authorization to discharge groundwater remediation project wastewater represents a substantial alteration to the permitted facility process, which is an allowable exception under 40 CFR § 122.44(l)(2)(i)(A).

Other limitations

The existing limitations for chemical oxygen demand, benzene, naphthalene, and total phenols, have been in the permit since at least 1998.

Mass limitations for chemical oxygen demand were calculated below by increasing the loading limits proportional to the increase in the permitted daily average flow.

	Existing limit, lbs/day		Flow change proportion		Proposed limit, lbs/day
Daily Avg	166.5	×	0.2/0.175	=	190.28
Daily Max	245	×	0.2/0.175	=	280

The recalculated mass limits for chemical oxygen demand are less stringent than the existing limits and have been placed in the draft permit, consistent with EPA's antibacksliding regulations because the amendment request to authorize an increase in the daily average flow to 0.200 MGD represents a substantial alteration to the permitted facility process, an allowable exception under 40 CFR § 122.44(l)(2)(i)(A).

The limitations for naphthalene, and total phenols are still protective and have been carried forward in the draft permit at Outfall 001 based on EPA's antibacksliding regulations at 40 CFR § 122.44(l).

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Appendix B
Calculated Water Quality-Based Effluent Limits

TEXTOX MENU #5 - BAY OR WIDE TIDAL RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Saltwater Aquatic Life

Table 2, 2014 Texas Surface Water Quality Standards for Human Health

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Southwest Shipyard, L.P.
TPDES Permit No:	WQ0002605000
Outfall No:	001
Prepared by:	Shannon Gibson
Date:	June 28, 2018

DISCHARGE INFORMATION

Receiving Waterbody:	Houston Ship Channel/San Jacinto River Tidal
Segment No:	1005
TSS (mg/L):	11
Effluent Flow for Aquatic Life (MGD)	0.2
% Effluent for Chronic Aquatic Life (Mixing Zone):	8
% Effluent for Acute Aquatic Life (ZID):	30
Oyster Waters?	No
Effluent Flow for Human Health (MGD):	0.2
% Effluent for Human Health:	4

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

<i>Estuarine Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>		<i>Water Effect Ratio (WER)</i>	
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (Total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+3)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	12594.97	0.88		1.80	307, App E
Lead	6.06	-0.85	149560.26	0.38		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	122848.37	0.43		1.00	Assumed
Zinc	5.36	-0.52	65837.87	0.58		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>SW Acute Criterion (ug/L)</i>	<i>SW Chronic Criterion (ug/L)</i>	<i>WLAa</i>	<i>WLAc</i>	<i>LTAa</i>	<i>LTAc</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Aldrin	1.3	N/A	4.33	N/A	1.39	N/A	2.04	4.31
Aluminum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	149	78	497	975	159	595	234	494

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AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>SW Acute Criterion (ug/L)</i>	<i>SW Chronic Criterion (ug/L)</i>	<i>WLAa</i>	<i>WLAc</i>	<i>LTAa</i>	<i>LTAc</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Cadmium	40.0	8.75	133	109	42.7	66.7	62.7	133
Carbaryl	613	N/A	2043	N/A	654	N/A	961	2034
Chlordane	0.09	0.004	0.300	0.050	0.096	0.031	0.045	0.095
Chlorpyrifos	0.011	0.006	0.037	0.075	0.012	0.046	0.017	0.036
Chromium (+3)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chromium (+6)	1,090	49.6	3633	620	1163	378	556	1176
Copper	24.3	6.48	92.2	92.2	29.5	56.3	43.4	91.8
Copper (oyster waters)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cyanide (free)	5.6	5.6	18.7	70.0	5.97	42.7	8.78	18.6
4,4'-DDT	0.13	0.001	0.433	0.013	0.139	0.0076	0.011	0.024
Demeton	N/A	0.1	N/A	1.25	N/A	0.763	1.12	2.37
Diazinon	0.819	0.819	2.73	10.2	0.874	6.24	1.28	2.72
Dicofol	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	0.002	2.37	0.025	0.757	0.02	0.022	0.047
Diuron	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Endosulfan I (alpha)	0.034	0.009	0.113	0.113	0.036	0.069	0.053	0.113
Endosulfan II (beta)	0.034	0.009	0.113	0.113	0.036	0.069	0.053	0.113
Endosulfan sulfate	0.034	0.009	0.113	0.113	0.036	0.069	0.053	0.113
Endrin	0.037	0.002	0.123	0.025	0.039	0.02	0.022	0.047
Guthion	N/A	0.01	N/A	0.125	N/A	0.076	0.112	0.237
Heptachlor	0.053	0.004	0.177	0.050	0.057	0.031	0.045	0.095
Hexachlorocyclohexane (Lindane)	0.16	N/A	0.533	N/A	0.171	N/A	0.251	0.531
Lead	133	5.3	1173	175	375	107	157	332
Malathion	N/A	0.01	N/A	0.125	N/A	0.076	0.112	0.237
Mercury	2.1	1.1	7.00	13.8	2.24	8.39	3.29	6.97
Methoxychlor	N/A	0.03	N/A	0.375	N/A	0.229	0.336	0.711
Mirex	N/A	0.001	N/A	0.013	N/A	0.0076	0.011	0.024
Nickel	118	13.1	393	164	126	99.9	147	311
Nonylphenol	7	1.7	23.3	21.3	7.47	13.0	11.0	23.2
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	9.6	50.3	120	16.1	73.2	23.7	50.1
Phenanthrene	7.7	4.6	25.7	57.5	8.21	35.1	12.1	25.5
Polychlorinated Biphenyls (PCBs)	10	0.03	33.3	0.375	10.7	0.229	0.336	0.711
Selenium	564	136	1880	1700	602	1037	884	1871
Silver	2	N/A	15.7	N/A	5.02	N/A	7.37	15.6
Toxaphene	0.21	0.0002	0.700	0.0025	0.224	0.0015	0.0022	0.0047
Tributyltin (TBT)	0.24	0.0074	0.800	0.093	0.256	0.056	0.083	0.175
2,4,5 Trichlorophenol	259	12	863	150	276	91.5	135	285
Zinc	92.7	84.2	533	1815	170	1107	251	530

HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Fish Only Criterion (ug/L)</i>	<i>WLAh</i>	<i>LTAh</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Acrylonitrile	3.8	95.0	88.4	130	275
Aldrin	0.0010	0.025	0.023	0.034	0.072
Anthracene	N/A	N/A	N/A	N/A	N/A
Antimony	1,071	26775	24901	36604	77441

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HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

Parameter	Fish Only Criterion (ug/L)	WLAh	LTAh	Daily Avg. (ug/L)	Daily Max. (ug/L)
Arsenic	N/A	N/A	N/A	N/A	N/A
Barium	N/A	N/A	N/A	N/A	N/A
Benzene	513	12825	11927	17533	37094
Benzidine	0.0020	0.050	0.047	0.068	0.145
Benzo(a)anthracene	3.28	82.0	76.3	112	237
Benzo(a)pyrene	0.33	8.25	7.67	11.3	23.9
Bis(chloromethyl)ether	0.44	11.00	10.2	15.0	31.8
Bis(2-chloroethyl)ether	10.06	252	234	344	727
Bis(2-ethylhexyl)phthalate	41	1025	953	1401	2965
Bromodichloromethane (Dichlorobromomethane)	322	322	8050	7487	11005
Bromoform	2,175	54375	50569	74336	157269
Cadmium	N/A	N/A	N/A	N/A	N/A
Carbon Tetrachloride	30.5	763	709	1042	2205
Chlordane	0.0081	0.203	0.188	0.277	0.586
Chlorobenzene	5,201	130025	120923	177757	376071
Chlorodibromomethane (Dibromochloromethane)	239	239	5975	5557	8168
Chloroform	7,143	178575	166075	244130	516492
Chromium (+6)	502	12550	11672	17157	36298
Chrysene	327	8175	7603	11176	23645
Cresols (Methylphenols)	9,301	232525	216248	317885	672532
Cyanide (free)	N/A	N/A	N/A	N/A	N/A
4,4'-DDD	0.0059	0.148	0.137	0.202	0.427
4,4'-DDE	0.0040	0.100	0.093	0.137	0.289
4,4'-DDT	0.0040	0.100	0.093	0.137	0.289
2,4'-D	N/A	N/A	N/A	N/A	N/A
Danitrol	473	11825	10997	16166	34201
1,2-Dibromoethane	4.24	106	98.6	145	307
m-Dichlorobenzene (1,3-Dichlorobenzene)	1,445	36125	33596	49386	104484
o-Dichlorobenzene (1,2-Dichlorobenzene)	4,336	108400	100812	148194	313525
p-Dichlorobenzene (1,4-Dichlorobenzene)	N/A	N/A	N/A	N/A	N/A
3,3'-Dichlorobenzidine	0.44	11.0	10.2	15.0	31.8
1,2-Dichloroethane	553	13825	12857	18900	39986
1,1-Dichloroethylene	23,916	597900	556047	817389	1729306
Dichloromethane (Methylene Chloride)	22,222	555550	516662	759492	1606817
1,2-Dichloropropane	226	5650	5255	7724	16341
1,3-Dichloropropene (1,3- Dichloropropylene)	211	5275	4906	7211	15257
Dicofol	0.30	7.50	6.98	10.3	21.7
Dieldrin	0.001	0.025	0.023	0.034	0.072
2,4-Dimethylphenol	571	14275	13276	19515	41288
Di-n-Butyl Phthalate	3,010	75250	69983	102874	217646
Dioxins/Furans (TCDD Equivalents)	7.97E-08	1.99E-06	1.85E-06	2.72E-06	5.76E-06
Endrin	0.20	5.00	4.65	6.84	14.5
Ethylbenzene	7,143	178575	166075	244130	516492
Fluoride	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.0015	0.038	0.035	0.051	0.108
Heptachlor Epoxide	0.00075	0.019	0.017	0.026	0.054
Hexachlorobenzene	0.0045	0.113	0.105	0.154	0.325
Hexachlorobutadiene	274	6850	6371	9365	19812
Hexachlorocyclohexane (alpha)	0.093	2.33	2.16	3.18	6.72

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HUMAN HEALTH

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>Fish Only Criterion (ug/L)</i>	<i>WLAh</i>	<i>LTAh</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Hexachlorocyclohexane (beta)	0.33	8.25	7.67	11.3	23.9
Hexachlorocyclohexane (gamma) (Lindane)	6.2	155	144	212	448
Hexachlorocyclopentadiene	N/A	N/A	N/A	N/A	N/A
Hexachloroethane	11.51	287.8	267.6	393	832
Hexachlorophene	2.90	72.5	67.4	99.1	209.7
Lead	3.83	253	236	346	732.55
Mercury	0.0250	0.625	0.581	0.854	1.81
Methoxychlor	1.61	40.3	37.4	55.0	116
Methyl Ethyl Ketone	992,000	24800000	23064000	33904080	71729040
Nickel	1,140	28500	26505	38962	82431
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A	N/A	N/A	N/A
Nitrobenzene	1,853	46325	43082	63331	133986
N-Nitrosodiethylamine	2.1	52.5	48.8	71.8	151.8
N-Nitroso-di-n-Butylamine	4.2	105	97.7	144	304
Pentachlorobenzene	1.0	25.0	23.3	34.2	72.3
Pentachlorophenol	9.1	228	212	311	658
Polychlorinated Biphenyls (PCBs)	6.4E-04	0.016	0.015	0.022	0.046
Pyridine	947	23675	22018	32366	68475
Selenium	N/A	N/A	N/A	N/A	N/A
1,2,4,5-Tetrachlorobenzene	0.71	17.8	16.5	24.3	51.3
1,1,2,2-Tetrachloroethane	40	1000	930	1367	2892
Tetrachloroethylene	525	13125	12206	17943	37961
Thallium	0.23	5.75	5.35	7.86	16.6
Toluene	N/A	N/A	N/A	N/A	N/A
Toxaphene	0.0053	0.133	0.123	0.181	0.383
2,4,5-TP (Silvex)	21	525	488	718	1518
1,1,1-Trichloroethane	956,663	23916575	22242415	32696350	69173910
1,1,2-Trichloroethane	295	7375	6859	10082	21331
Trichloroethylene	82	2050	1907	2803	5929
2,4,5-Trichlorophenol	2,435	60875	56614	83222	176069
TTHM (Sum of Total Trihalomethanes)	N/A	N/A	N/A	N/A	N/A
Vinyl Chloride	24	600	558	820	1735

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life		
<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Aldrin	1.43	1.73
Aluminum	N/A	N/A
Arsenic	164	199
Cadmium	43.9	53.3
Carbaryl	673	817
Chlordane	0.031	0.038
Chlorpyrifos	0.012	0.015
Chromium (+3)	N/A	N/A
Chromium (+6)	389	473
Copper	30.4	36.9
Copper (oyster waters)	N/A	N/A
Cyanide (free)	6.15	7.46

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Aquatic Life

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
4,4'-DDT	0.0078	0.0095
Demeton	0.785	0.953
Diazinon	0.899	1.09
Dicofol	N/A	N/A
Dieldrin	0.016	0.019
Diuron	N/A	N/A
Endosulfan (alpha)	0.037	0.045
Endosulfan (beta)	0.037	0.045
Endosulfan sulfate	0.037	0.045
Endrin	0.016	0.019
Guthion	0.078	0.095
Heptachlor	0.031	0.038
Hexachlorocyclohexane (Lindane)	0.176	0.213
Lead	110	134
Malathion	0.078	0.095
Mercury	2.30	2.80
Methoxychlor	0.235	0.286
Mirex	0.0078	0.0095
Nickel	103	125
Nonylphenol	7.68	9.33
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	16.6	20.1
Phenanthrene	8.45	10.3
Polychlorinated Biphenyls (PCBs)	0.235	0.286
Selenium	619	752
Silver	5.16	6.27
Toxaphene	0.0016	0.0019
Tributyltin (TBT)	0.058	0.071
2,4,5 Trichlorophenol	94.2	114
Zinc	175	213

Human Health

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Acrylonitrile	90.9	110
Aldrin	0.0239	0.0291
Anthracene	N/A	N/A
Antimony	25623	31113
Arsenic	N/A	N/A
Barium	N/A	N/A
Benzene	12273	14903
Benzidine	0.048	0.058
Benzo(a)anthracene	78.5	95.3
Benzo(a)pyrene	7.90	9.59
Bis(chloromethyl)ether	10.5	12.8
Bis(2-chloroethyl)ether	241	292
Bis(2-ethylhexyl)phthalate	981	1191
Bromodichloromethane (Dichlorobromomethane)	7704	9354
Bromoform	52035	63186
Cadmium	N/A	N/A
Carbon Tetrachloride	730	886
Chlordane	0.194	0.235
Chlorobenzene	124430	151094

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Human Health		
Parameter	70%	85%
Chlorodibromomethane (Dibromochloromethane)	5718	6943
Chloroform	170891	207510
Chromium (+6)	12010	14584
Chrysene	7823	9500
Cresols (Methylphenols)	222519	270202
Cyanide (free)	N/A	N/A
4,4'-DDD	0.141	0.171
4,4'-DDE	0.096	0.116
4,4'-DDT	0.096	0.116
2,4'-D	N/A	N/A
Danitrol	11316	13741
1,2-Dibromoethane	101	123
m-Dichlorobenzene (1,3-Dichlorobenzene)	34571	41979
o-Dichlorobenzene (1,2-Dichlorobenzene)	103736	125965
p-Dichlorobenzene (1,4-Dichlorobenzene)	N/A	N/A
3,3'-Dichlorobenzidine	10.5	12.8
1,2-Dichloroethane	13230	16065
1,1-Dichloroethylene	572172	694781
Dichloromethane (Methylene Chloride)	531645	645569
1,2-Dichloropropane	5407	6565
1,3-Dichloropropene (1,3- Dichloropropylene)	5048	6130
Dicofol	7.18	8.72
Dieldrin	0.0239	0.0291
2,4-Dimethylphenol	13661	16588
Di-n-Butyl Phthalate	72012	87443
Dioxins/Furans (TCDD Equivalents)	1.91E-06	2.32E-06
Endrin	4.78	5.81
Ethylbenzene	170891	207510
Fluoride	N/A	N/A
Heptachlor	0.036	0.044
Heptachlor Epoxide	0.018	0.022
Hexachlorobenzene	0.108	0.131
Hexachlorobutadiene	6555	7960
Hexachlorocyclohexane (alpha)	2.22	2.70
Hexachlorocyclohexane (beta)	7.90	9.59
Hexachlorocyclohexane (gamma) (Lindane)	148.3	180.1
Hexachlorocyclopentadiene	N/A	N/A
Hexachloroethane	275	334
Hexachlorophene	69.4	84.2
Lead	242	294
Mercury	0.598	0.726
Methoxychlor	38.5	46.8
Methyl Ethyl Ketone	23732856	28818468
Nickel	27274	33118
Nitrate-Nitrogen (as Total Nitrogen)	N/A	N/A
Nitrobenzene	44332	53831
N-Nitrosodiethylamine	50.2	61.0
N-Nitroso-di-n-Butylamine	100	122
Pentachlorobenzene	23.9	29.1
Pentachlorophenol	218	264
Polychlorinated Biphenyls (PCBs)	0.015	0.019
Pyridine	22656	27511

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Human Health		
<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Selenium	N/A	N/A
1,2,4,5-Tetrachlorobenzene	17.0	20.6
1,1,2,2-Tetrachloroethane	957	1162
Tetrachloroethylene	12560	15252
Thallium	5.50	6.68
Toluene	N/A	N/A
Toxaphene	0.127	0.154
2,4,5-TP (Silvex)	502	610
1,1,1-Trichloroethane	22887445	27791897
1,1,2-Trichloroethane	7058	8570
Trichloroethylene	1962	2382
2,4,5-Trichlorophenol	58256	70739
TTHM (Sum of Total Trihalomethanes)	N/A	N/A
Vinyl Chloride	574	697

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TEXTTOX MENU #5 - BAY OR WIDE TIDAL RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Saltwater Aquatic Life

Table 2, 2014 Texas Surface Water Quality Standards for Human Health

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Southwest Shipyard, L.P.
TPDES Permit No:	WQ0002605000
Outfall No:	003 and 006
Prepared by:	Shannon Gibson
Date:	June 28, 2018

DISCHARGE INFORMATION

Receiving Waterbody:	Houston Ship Channel/San Jacinto River Tidal
Segment No:	1005
TSS (mg/L):	11
Effluent Flow for Aquatic Life (MGD)	0.03
% Effluent for Acute Aquatic Life (ZID):	30
Oyster Waters?	No

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

<i>Estuarine Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>		<i>Water Effect Ratio (WER)</i>	
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (Total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+3)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	12594.97	0.88		1.80	307, App E
Lead	6.06	-0.85	149560.26	0.38		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	122848.37	0.43		1.00	Assumed
Zinc	5.36	-0.52	65837.87	0.58		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>SW Acute Criterion (ug/L)</i>	<i>WLAa</i>	<i>LTAa</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Aldrin	1.3	4.33	1.39	2.04	4.31
Aluminum	N/A	N/A	N/A	N/A	N/A
Arsenic	149	497	159	234	494
Cadmium	40.0	133	42.7	62.7	133
Carbaryl	613	2043	654	961	2034
Chlordane	0.09	0.300	0.096	0.141	0.299
Chlorpyrifos	0.011	0.037	0.012	0.017	0.036
Chromium (+3)	N/A	N/A	N/A	N/A	N/A
Chromium (+6)	1,090	3633	1163	1709	3616
Copper	24.3	92.2	29.5	43.4	91.8
Copper (oyster waters)	N/A	N/A	N/A	N/A	N/A

STATEMENT OF BASIS / TECHNICAL SUMMARY AND
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AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>SW Acute Criterion (ug/L)</i>	<i>WLAa</i>	<i>LTAa</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
Cyanide (free)	5.6	18.7	5.97	8.78	18.6
4,4'-DDT	0.13	0.433	0.139	0.204	0.431
Demeton	N/A	N/A	N/A	N/A	N/A
Diazinon	0.819	2.73	0.874	1.28	2.72
Dicofol	N/A	N/A	N/A	N/A	N/A
Dieldrin	0.71	2.37	0.757	1.11	2.36
Diuron	N/A	N/A	N/A	N/A	N/A
Endosulfan I (alpha)	0.034	0.113	0.036	0.053	0.113
Endosulfan II (beta)	0.034	0.113	0.036	0.053	0.113
Endosulfan sulfate	0.034	0.113	0.036	0.053	0.113
Endrin	0.037	0.123	0.039	0.058	0.123
Guthion	N/A	N/A	N/A	N/A	N/A
Heptachlor	0.053	0.177	0.057	0.083	0.176
Hexachlorocyclohexane (Lindane)	0.16	0.533	0.171	0.251	0.531
Lead	133	1173	375	552	1167
Malathion	N/A	N/A	N/A	N/A	N/A
Mercury	2.1	7.00	2.24	3.29	6.97
Methoxychlor	N/A	N/A	N/A	N/A	N/A
Mirex	N/A	N/A	N/A	N/A	N/A
Nickel	118	393	126	185	391
Nonylphenol	7	23.3	7.47	11.0	23.2
Parathion (ethyl)	N/A	N/A	N/A	N/A	N/A
Pentachlorophenol	15.1	50.3	16.1	23.7	50.1
Phenanthrene	7.7	25.7	8.21	12.1	25.5
Polychlorinated Biphenyls (PCBs)	10	33.3	10.7	15.7	33.2
Selenium	564	1880	602	884	1871
Silver	2	15.7	5.02	7.37	15.6
Toxaphene	0.21	0.700	0.224	0.329	0.697
Tributyltin (TBT)	0.24	0.800	0.256	0.376	0.796
2,4,5 Trichlorophenol	259	863	276	406	859
Zinc	92.7	533	170	251	530

CALCULATE 70% AND 85% OF DAILY AVERAGE EFFLUENT LIMITATIONS:

Aquatic Life

<i>Parameter</i>	<i>70%</i>	<i>85%</i>
Aldrin	1.43	1.73
Aluminum	N/A	N/A
Arsenic	164	199
Cadmium	43.9	53.3
Carbaryl	673	817
Chlordane	0.099	0.120
Chlorpyrifos	0.012	0.015
Chromium (+3)	N/A	N/A
Chromium (+6)	1196	1453
Copper	30.4	36.9
Copper (oyster waters)	N/A	N/A
Cyanide (free)	6.15	7.46
4,4'-DDT	0.143	0.173
Demeton	N/A	N/A

STATEMENT OF BASIS / TECHNICAL SUMMARY AND
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Aquatic Life		
Parameter	70%	85%
Diazinon	0.899	1.09
Dicofol	N/A	N/A
Dieldrin	0.779	0.946
Diuron	N/A	N/A
Endosulfan (alpha)	0.037	0.045
Endosulfan (beta)	0.037	0.045
Endosulfan sulfate	0.037	0.045
Endrin	0.041	0.049
Guthion	N/A	N/A
Heptachlor	0.058	0.071
Hexachlorocyclohexane (Lindane)	0.176	0.213
Lead	386	469
Malathion	N/A	N/A
Mercury	2.30	2.80
Methoxychlor	N/A	N/A
Mirex	N/A	N/A
Nickel	130	157
Nonylphenol	7.68	9.33
Parathion (ethyl)	N/A	N/A
Pentachlorophenol	16.6	20.1
Phenanthrene	8.45	10.3
Polychlorinated Biphenyls (PCBs)	11.0	13.3
Selenium	619	752
Silver	5.16	6.27
Toxaphene	0.23050	0.2799
Tributyltin (TBT)	0.263	0.320
2,4,5 Trichlorophenol	284	345
Zinc	175	213

STATEMENT OF BASIS / TECHNICAL SUMMARY AND
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TEXTTOX MENU #5 - BAY OR WIDE TIDAL RIVER

The water quality-based effluent limitations developed below are calculated using:

Table 1, 2014 Texas Surface Water Quality Standards (30 TAC 307) for Saltwater Aquatic Life

Table 2, 2014 Texas Surface Water Quality Standards for Human Health

"Procedures to Implement the Texas Surface Water Quality Standards," TCEQ, June 2010

PERMIT INFORMATION

Permittee Name:	Southwest Shipyard, L.P.
TPDES Permit No:	WQ0002605000
Outfall No:	004 and 005 combined analysis, overlapping ZIDs
Prepared by:	Shannon Gibson
Date:	July 18, 2018

DISCHARGE INFORMATION

Receiving Waterbody:	Houston Ship Channel/San Jacinto River Tidal
Segment No:	1005
TSS (mg/L):	11
Effluent Flow for Aquatic Life (MGD)	0.03
% Effluent for Acute Aquatic Life (ZID):	30
Oyster Waters?	No

CALCULATE DISSOLVED FRACTION (AND ENTER WATER EFFECT RATIO IF APPLICABLE):

<i>Estuarine Metal</i>	<i>Intercept (b)</i>	<i>Slope (m)</i>	<i>Partition Coefficient (Kp)</i>	<i>Dissolved Fraction (Cd/Ct)</i>		<i>Water Effect Ratio (WER)</i>	
Aluminum	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Arsenic	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Cadmium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (Total)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+3)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Chromium (+6)	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Copper	4.85	-0.72	12594.97	0.88		1.80	307, App E
Lead	6.06	-0.85	149560.26	0.38		1.00	Assumed
Mercury	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Nickel	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Selenium	N/A	N/A	N/A	1.00	Assumed	1.00	Assumed
Silver	5.86	-0.74	122848.37	0.43		1.00	Assumed
Zinc	5.36	-0.52	65837.87	0.58		1.00	Assumed

AQUATIC LIFE

CALCULATE DAILY AVERAGE AND DAILY MAXIMUM EFFLUENT LIMITATIONS:

<i>Parameter</i>	<i>SW Acute Criterion (ug/L)</i>	<i>WLAa</i>	<i>LTAa</i>	<i>Daily Avg. (ug/L)</i>	<i>Daily Max. (ug/L)</i>
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STATEMENT OF BASIS / TECHNICAL SUMMARY AND
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AQUATIC LIFE

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STATEMENT OF BASIS / TECHNICAL SUMMARY AND
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Hexachlorocyclohexane (Lindane)	0.176	0.213
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Selenium	619	752
Silver	5.16	6.27
Toxaphene	0.230	0.280
Tributyltin (TBT)	0.263	0.320
2,4,5 Trichlorophenol	284	345
Zinc	175	213

Parameter	Otfl 004 ¹	Otfl 005 ²	Total Flow	Flow-Weighted Average Concentration (µg/L)	Permit Action Needed?
2-Year Maximum Flow (MGD)	0.03	0.03	0.06	—	—
Copper (µg/L)	22.6	27.5	—	25.0	No
Zinc (µg/L)	33.7	88.5	—	61.1	No

¹ Concentrations are the average of daily average of DMR data for the period May 2013 through May 2018.

² Concentrations are one-half the average of daily maximum of DMR data for the period May 2103 through May 2018. The permit includes only a daily maximum reporting requirement, and it was considered appropriate to estimate the daily average as one-half of the daily maximum.

STATEMENT OF BASIS / TECHNICAL SUMMARY AND
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Appendix C
pH Screening

Calculation of pH of a mixture in seawater.
Based on the CO2SYS program (Lewis and Wallace, 1998)
<http://cdiac.esd.ornl.gov/oceans/co2rprt.html>

Southwest Shipyard
02605-000, Outfall 001
1005 - Houston Ship Channel/San Jacinto River Tidal

INPUT

Notes on Data Sources

1. MIXING ZONE BOUNDARY CHARACTERISTICS

Dilution factor at mixing zone boundary	6.660	6.660	Calculated from values from May 11, 2018 critical conditions: Effluent % at edge of mixing zone = 15%
Depth at plume trapping level (m)	2.000	2.000	Default value. Various depths tested.

2. BACKGROUND RECEIVING WATER CHARACTERISTICS

Temperature (deg C):	25.00	20.00	Range of temperatures tested (5 to 35 degrees C)
pH:	7.20	7.20	Ambient pH for Segment 1005 from 2010 IPs.
Salinity (psu):	20.00	20.00	Range of salinities tested (2 to 30 psu)
Total alkalinity (meq/L)	8.23	12.40	Ambient hardness for Segment 1005 from 2010 IPs.

3. EFFLUENT CHARACTERISTICS

Temperature (deg C):	30.00	32.00	Range of temperatures tested (5 to 35 degrees C)
pH:	6.00	9.00	Proposed permit limit. Sequentially modified until predicted pH met segment criteria (6.5 to 9.0).
Salinity (psu)	1.00	5.00	Minimum salinity assumed because discharge is freshwater. However, values up to 5 ppt tested.
Total alkalinity (meq/L):	0.40	4.00	For high pH scenario, calculated and tested a range of values. For low pH scenarios, used default of 20 mg/L CaCO ₃ = 0.40 meq/L

OUTPUT

CONDITIONS AT THE MIXING ZONE BOUNDARY

Temperature (deg C):	25.75	21.80	
Salinity (psu)	17.15	17.75	
Density (kg/m ³)	1009.71	1011.22	
Alkalinity (mmol/kg-SW):	10.50	11.01	
Total Inorganic Carbon (mmol/kg-SW):	10.56	10.93	
pH at Mixing Zone Boundary:	7.47	7.64	Segment 1005 Criteria: 6.5 to 9.0

Notes:

To convert from units of mgCaCO₃/L to meq/L divide by 50.044 mg/meq

PSU refers to the Practical Salinity Scale (PSS) and is approximately equivalent to parts per thousand (ppt)

STATEMENT OF BASIS / TECHNICAL SUMMARY AND
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Appendix D
Comparison of Technology-Based Effluent Limits and Water Quality-Based Effluent Limits

The following table is a summary of technology-based effluent limitations calculated/assessed in the draft permit (Technology-Based), calculated/assessed water quality-based effluent limitations (Water Quality-Based), and effluent limitations in the existing permit (Existing Permit). Effluent limitations appearing in bold are the most stringent of the three and are included in the draft permit.

Outfall	Pollutant	Technology-Based				Water Quality-Based				Existing Permit			
		Daily Avg		Daily Max		Daily Avg		Daily Max		Daily Avg		Daily Max	
		lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L
001	Flow	0.200 MGD		0.300 MGD		-		-		0.175 MGD		0.200 MGD	
	Chemical Oxygen Demand (COD)	190	-	280	-	-	-	-	-	166.5	Report	245	Report
	Carbonaceous Biochemical Oxygen Demand, 5-day/ Biochemical Oxygen Demand, 5-day	24.8	22	67.8	61	16.6	10	33.3	20	14.4	10	29.2	20
	Total Suspended Solids (TSS)	29.0	26	64.7	58					16.7	26	37.2	58
	Oil and Grease	18.0	16	39.5	36					7.3	16	11.4	20
	Ammonia Nitrogen	-	-	-	-	5.00	3.0	10.0	6.0	4.38	3.0	8.8	6.0
	Chlorine Residual	-	1.0, min	-	4.0	-	-	-	-	-	1.0, min	-	4.0
	Dissolved Oxygen	-	-	-	-		4.0, min	-			4.0, min	-	
	Enterococci (cfu or MPN/100mL)	-		-		35		104		-		-	
	Total Cadmium	-	-	0.017	0.02	-	-	0.221	0.133	-	-	0.014	0.02
	Total Chromium	-	-	0.371	0.42	-	-	-	-	-	-	0.29	0
	Hexavalent Chromium	-	-	-	-	-	-	-	-	-	Report	-	Report
	Total Copper	-	-	0.228	0.10	-	-	0.151	0.091	-	-	0.07	0.091
	Total Lead	-	-	0.123	0.14	-	-	0.554	0.332	-	-	0.1	0.14
	Total Mercury	-	-	0.0016	0.0013	0.0014	0.00085	0.0030	0.0018	0.00040	0.00042	0.00084	0.00088
	Total Nickel	-	-	0.513	0.58	0.245	0.147	0.518	0.311	0.14	0.15	0.29	0.31
	Total Zinc	-	-	7.34	8.3	-	-	-	0.530	-	-	Report	0.53
	Sulfide	-	-	-	-	-	-	-	-	-	-	Report	Report
	Benzene	-	-	-	-	-	17.5	-	37.0	-	-	-	0.13
	Naphthalene	-	-	-	-	-	-	-	-	-	-	-	0.06
	Phenanthrene	-	-	-	-	0.020	0.012	0.041	0.025	0.011	0.012	0.024	0.025

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Outfall	Pollutant	Technology-Based				Water Quality-Based				Existing Permit			
		Daily Avg		Daily Max		Daily Avg		Daily Max		Daily Avg		Daily Max	
		lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L
001	Total Phenols (4AAP)	-	-	-	-	-	-	-	-	-	-	-	0.35
	BTEX, Total	0.166	0.10	0.166	0.10	-	-	-	-	0.15	0.1	0.15	0.1
	Total Petroleum Hydrocarbons	25.0	15.0	25.0	15.0	-	-	-	-	22	15	22	15
	Polynuclear Aromatic Hydrocarbons	0.016	0.01	0.016	0.01	-	-	-	-	0.015	0.01	0.015	0.01
	Cyanide (free)	-	-	-	-	-	Report	-	Report	-	-	-	-
	pH (Standard Units)	6.0 SU, min		9.0 SU		6.0 SU, min		9.0 SU		6.0 SU, min		9.0 SU	
003	Flow	-		-		-		-		Report, MGD		Report, MGD	
	TSS	-	-	-	-	-	-	-	-	-	-	-	-
	- Upstream	-	-	-	-	-	-	-	-	-	Report	-	Report
	- Outfall 003	-	-	-	-	-	-	-	-	-	Report	-	Report
	- Net	-	50	-	100	-	-	-	-	-	50	-	100
	Oil and Grease	-	-	-	15	-	-	-	-	-	-	-	15
	Total Arsenic	-	-	-	-	-	0.234	-	0.494	-	0.23	-	0.49
	Total Copper	-	-	-	-	-	Report	-	-	-	-	-	Report
	Total Nickel	-	-	-	-	-	0.185	-	0.391	-	0.12	-	0.25
	Total Silver	-	-	-	-	-	0.0073	-	0.016	-	0.007	-	0.016
	Total Zinc	-	-	-	-	-	-	-	-	-	Report	-	Report
004	pH	6.0 SU, min		9.0 SU		6.0 SU, min		9.0 SU		6.0 SU, min		9.0 SU	
	Flow	-		-		-		-		Report, MGD		Report, MGD	
	TSS	-	-	-	-	-	-	-	-	-	-	-	-
	- Upstream	-	-	-	-	-	-	-	-	-	Report	-	Re
	- Outfall 004	-	-	-	-	-	-	-	-	-	Report	-	Report
	- Net	-	50	-	100	-	-	-	-	-	50	-	100
	Oil and Grease	-	-	-	15	-	-	-	-	-	-	-	15
	Total Arsenic	-	-	-	-	-	0.23	-	0.49	-	0.23	-	0.49
	Total Copper	-	-	-	-	-	-	-	-	-	Report	-	Report
	Cyanide (free)	-	-	-	-	-	0.009	-	0.019	-	0.009	-	0.019
	Total Nickel	-	-	-	-	-	0.185	-	0.391	-	0.12	-	0.25
	Total Selenium	-	-	-	-	-	-	-	-	-	Report	-	Report
	Total Silver	-	-	-	-	-	0.007	-	0.016	-	0.007	-	0.016
	Total Zinc	-	-	-	-	-	0.251	-	0.530	-	0.250	-	0.530

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TPDES Permit No. WQ0002605000

Outfall	Pollutant	Technology-Based				Water Quality-Based				Existing Permit			
		Daily Avg		Daily Max		Daily Avg		Daily Max		Daily Avg		Daily Max	
		lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L
004	pH	6.0 SU, min		9.0 SU		6.0 SU, min		9.0 SU		6.0 SU, min		9.0 SU	
005	Flow	-		-		-		-		Report, MGD		Report, MGD	
	TSS	-	-	-	-	-	-	-	-	-	-	-	-
	- Upstream	-	-	-	-	-	-	-	-	-	Report	-	Report
	- Outfall 005	-	-	-	-	-	-	-	-	-	Report	-	Report
	- Net	-	50	-	100	-	-	-	-	-	50	-	100
	Oil and Grease	-	-	-	15	-	-	-	-	-	-	-	-
	Total Copper	-	-	-	-	-	Report	-	-	-	-	-	Report
	Total Zinc	-	-	-	-	-	Report	-	-	-	-	-	Report
	pH	6.0 SU, min		9.0 SU		6.0 SU, min		9.0 SU		6.0 SU, min		9.0 SU	
006	Flow	-		-		-		-		Report, MGD		Report, MGD	
	TSS	-	-	-	100	-	-	-	-	-	-	-	100
	COD	-	-	-	150	-	-	-	-	-	-	-	150
	Oil and Grease	-	-	-	15	-	-	-	-	-	-	-	15
	pH	6.0 SU, min		9.0 SU		6.0 SU, min		9.0 SU		6.0 SU, min		9.0 SU	